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ABSTRACT

The Indian Manpower Resource Study (IMRS) was undertaken to provide basic information essential to the planning and development of effective programs to make use of the manpower resource of reservation Indians in Arizona and New Mexico. In the past, decision making has largely been undertaken with a minimum of valid information. The reservations studied were Fort Apache, San Carlos, Acoma, Laguna, and Papago. Data indicate that Indians of the Southwest have substantially lower incomes than other Americans. Also, although most reservation families live in a rural setting, they should not be considered farm families. The study, in addition to income and available manpower supplies, also gathered information on age and sex, family characteristics, industry and occupational experiences, and consumption patterns. This study supports the hypothesis that the creation of on-reservation opportunities would be met by a willing labor force. Generally, information indicates that Indians may require more concentrated efforts to resolve their employment problems than other disadvantaged U. S. citizens because of their relatively greater deprivation. Natural and human resource development of reservations should be encouraged. Industries can be developed in tourism and recreation where feasible. (KM)

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A PILOT STUDY

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Indian Manpower Resources In The Southwest: A Pilot Study

Benjamin J. Taylor
Associate Professor of Economics
Arizona State University

Dennis J. O'Connor
Assistant Professor of Economics
Arizona State University

Benjamin J. Taylor
Principal Investigator
Indian Manpower Resource Study

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Bureau of Business and Economic Research
College of Business Administration
Arizona State University
Tempe, Arizona

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Preface

The Indian Manpower Resource Study was undertaken in order to provide basic and necessary information essential to the planning and development of effective programs to make use of the manpower resource of reservation Indians. In the past, decision-making regarding Indian employment programs has largely been undertaken with a minimum of valid information.

The Congressional desire to bring about greater self-determination among Indians, to free them from federal control and supervision, end their wardship and make them subject to all the laws, responsibilities, and privileges of all U.S. citizens has not been realized. In order to gain this objective, the current status of the Indian must be thoroughly understood. To contribute to the understanding of the reservation Indian, this present study was put in motion. Analysis of the data retrieved through this study should indicate the direction to be taken to realize the objectives Congress has set for the inclusion of the reservation Indian in the mainstream of U. S. economic and societal life.

Freedom of economic choice for Indians can only come from an equal opportunity to compete with other U. S. citizens for education and, thereafter, for jobs. The dilemma in this objective is the marked tendency of Indians to remain on the reservations and share the income of the extended family unit whenever it is economically feasible. Attempts to raise income through transfer payments may slow down any existing success in assimilating Indians into the general economy through migration off their reservations to areas where employment is available. Furthermore, they must first be able to compete in an unsheltered labor market. It may well be necessary to offer monetary incentives to encourage the Indians to relocate in areas where there are jobs available that are consistent with their skills. This approach may prove more efficient in the long run than attempts to develop the economy of reservations where natural resources do not lend themselves to the production of goods and services demanded by the general public.

The Indian, like members of other minority groups in the United States, lives in a state of economic underdevelopment. In order to enable him to share equally in the benefits enjoyed by the majority of the U. S. population, a viable program to upgrade his education and training must be established. Only if his economic potential can be realized, will he be able to enjoy the same privileges as other citizens.

BENJAMIN J. TAYLOR

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Appreciation is owed to a number of individuals in the College of Business Administration, Arizona State University. Professors Gordon L. Nielsen, Associate Professor of Accounting, Don V. Plantz, Professor of Economics, and Harold W. Stevenson, Professor of Finance read the entire manuscript and offered many helpful suggestions and provided considerable guidance. Professor William S. Peters, now at the University of New Mexico, provided valuable statistical guidance throughout the study. Edward Kirkpatrick, now a teacher at Whiteriver, Arizona, gave valuable aid while a member of the project staff for a year.

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Finally, we wish to acknowledge the special debts owed our wives, Barbara and Prudence, for their patience over the past sixteen months. Considerable time away from home left them with our shares of family responsibilities in addition to their own.

Benjamin J. Taylor, Director
Bureau of Business and Economic Research
Associate Professor of Economics

Dennis J. O'Connor
Assistant Professor of Economics

Arizona State University
Tempe, Arizona
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Chapter 1

Introduction and Method

The Bureau of Indian Affairs, hereafter referred to as BIA, was established in 1834 as a part of the War Department. It was placed under the Department of Interior, its current location, in 1849. The BIA has three functions: (1) implement Congressional programs; (2) act as trustee for Indian lands and resources; (3) create a climate in which Indian groups can operate by and for themselves.[1]

Over the years several acts were passed by the Congress with the aim of bringing about greater self-determination among Indians. The Wheeler-Howard Act of 1934 (Indian Reorganization Act) was expressly passed for such a purpose. Among its provisions were the confirmation of Indian self-government, the setting up of tribal businesses chartered as federal corporations, and a system of federal loans. Inconsistencies in federal administration decisions and the inadequacy of appropriations have been cited as causes for not realizing the objectives of the 1934 laws.[2] In 1953, the Congress expressed its concern with American Indians by passing House Concurrent Resolution 108. The purpose of the declaration was to "free Indians from federal control and supervision, end their wardship, and make them subject to the same laws and entitled to the same privileges as other citizens."[3]

Regardless of Congressional intent, to realize the objective of full participation by Indians in U.S. society on the same basis as other citizens requires a considerable amount of information regarding their current status. The BIA has filtered information to the Congress that has often been inconsistent and unreliable in method of data collection used. Indian improvement in economic position has not materialized because of their geographic isolation from the general society. Efforts to correct the Indian situation have largely been slow because of the lack of national commitment to learning and understanding the state of the Indian's existence.

The purpose of this study is to obtain reliable information dealing with Indian manpower characteristics through the development of a sampling procedure and questionnaire that can be used on a regular basis. The method employed is designed to yield reliable statistics within the constraints of cost and time. The initial attempt to test the method developed was on a pilot basis; for this test, five Southwestern Indian reservations were chosen. The Arizona State Employment Service supplied the necessary funds for conducting the study on a contractual arrangement spanning a sixteen-month period.

The five reservations are the Fort Apache, San Carlos, and Papago in the State of Arizona, and the Acoma and Laguna reservations in New Mexico. They were chosen on the basis of both their similarities and diversities. The Papago Reservation is larger than all the others in terms of geographic size and total population. However, at any particular period of time, it was initially believed that only roughly 5,000 of 14,000 Papagos resided on tribal property.

The Fort Apache and San Carlos Reservations contain Indians of the same general background. Both are Apaches, but their respective reservations have undertaken somewhat dissimilar approaches to economic development. In part, the dissimilarity is largely due to a divergent physical environment, even though the reservations are adjacent to each other. The tribal leaders also seem to exhibit important differences in their attempts to develop the available resources. Both Apache tribes are similar in population size, but the Fort Apache Tribe is slightly larger.

The New Mexico tribes, Laguna and Acoma, are Pueblos, but are similar to the two Apache tribes. It is believed that the Laguna population emerged out of the Acomas. The two reservations are connected geographically, and the Laguna population is slightly larger than the Acoma. It appears that the Lagunas have been more progressive economically than the Acomas.

In brief, the test of the method is undertaken on reservations of disparate population sizes. Population rolls were available from various sources. There exists no single source of information about who resides on the reservations. The Indian Health Service was the source for the Papago and the San Carlos rolls. The United Pueblo Agency in Albuquerque, New Mexico, provided the lists for both the Acoma and Lagunas. The Fort Apache list was provided by the tribe.

Decision-making regarding Indian employment programs has largely been undertaken with a minimum of valid information. The Indian Manpower Resource Study (IMRS) staff was charged with the task of generating information in addition to the sampling procedure and questionnaire. This aspect of the study includes detailed characteristics of the population; details about the employed and unemployed; extent of education and training; consumption and expenditure patterns; skill and industry experiences; and income sources. More specifically, the study includes:

a. Population by age group, sex, and educational attainments.
b. Occupation and industry experiences of the working-age population over a five-year period.
c. Labor force participation rates by sex, age, and educational level.
d. Underutilization of the manpower resource.
e. Labor force status by sex, age, and education.
f. Source of training for usual job.
g. Place where work is performed.
h. Ability to communicate in the English language.
i. Disabilities preventing individuals from working.
j. Source and amount of income received by individuals and families during the previous year.
k. Consumption and expenditure patterns.

The analysis of data obtained through the study is reported in order to reach a general readership. The end result is to provide basic and necessary information essential to the planning and developing of effective services and programs for the Indian manpower resource. In the past, information concerning the American Indian has been relatively limited. In this study, each reservation is analyzed in a separate chapter; a final chapter deals with generalized conclusions.

It is the purpose of this chapter to review the method used to compile data on Indian manpower utilization. A comprehensive questionnaire was developed and a description is given of its nature and purpose. An attempt was made to adhere to the national definitions of the labor force as closely as possible. Several adjustments and modifications were necessarily made and explanations for all changes are offered. The selection and training of interviewers was also an important aspect in the generation of reservation data, and a discussion of this important phase is included. An assessment of difficulties encountered in the conduct of the study is explained in detail in the appropriate sections.

LABOR FORCE INFORMATION

THE NATIONAL SURVEY

Statistics dealing with the employment status of the population are compiled monthly for the Bureau of Labor Statistics by the Bureau of the Census in its Current Population Survey, hereafter referred to as CPS.[4] The controversy and debate that arose over the method of measuring employment and unemployment led to a special committee evaluation of these statistics in 1961.[5] Several conclusions of that committee have influenced the types of questions asked by the Indian Manpower Resource Study; specifically, these conclusions, in part, called for:

(1) a determination of the number of unemployed who wanted part-time jobs;
(2) greatly expanded information on persons not in the labor force;
(3) special studies to determine causes of the flow in and out of the labor force; and
(4) an expansion of basic and analytical research on labor force statistics.[6]

These monthly surveys conducted by the Bureau of Census are designed to collect data on the personal, occupational, and other characteristics of the employed. In addition, the national survey is constructed to provide information on the unemployed and persons not in the labor force. The monthly sample includes the noninstitutionalized civilian population 16 years of age and over. Inmates of institutions and persons under 16 years of age are excluded from the population and labor force statistics. Members of the armed forces are included as a part of the total labor force from data obtained from the Department of Defense.

Persons considered employed in the national survey are defined as (a) all those who, during the survey week, did any work for pay, or who worked in their own profession or business including farms, or who worked 15 hours or more as unpaid workers in an enterprise operated by a family member; and (b) all those who were not working but who had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management dispute, or personal reasons, whether or not they were paid by their employers for the time off, and whether or not they were seeking other jobs. Individuals are not considered employed if their activity during the survey week consisted simply of housework in their own home or painting and repairing their own home or of volunteer work for organizations such as churches and hospitals.

Unemployed persons are thus defined as those who did not work during the survey week, but who were available to take jobs and who actively sought work during the previous four weeks. In addition, unemployed status is assigned to persons interviewed who were: (a) waiting to be called back to a job from which they had been laid off; (b) waiting to report to a new wage or salary job within 30 days; (c) not looking for work because they were temporarily ill or believed no work was available in their line of work or in the community. Emphasis in the definition of unemployment is placed on an individual's *current* availability for work. The questions asked are designed for the purpose of finding out if an individual is seeking work for a future time period and not the current period. To be considered unemployed, one's job activity may include checking with the Employment Service, applying to employers directly, answering or placing want ads, and checking with friends and relatives. These definitions from the national survey provide reasonably accurate information regarding the labor force behavior of the population.

The Bureau of the Census questionnaire used for the CPS reflects methodology used by the Bureau of Labor Statistics and the survey is taken in 357 survey areas across the United States. Approximately 35,000 households are included in the sample. The sample is taken during the week of each month which includes the 19th day. The households included in the sample are rotated in such a way that a given household is in the survey for four months, not in the sample for eight months, and again included in the sample for four months. There are eight different rotation groups in the sample. In consecutive months, one-eighth of the households included in the sample are different. The methodology aims to pick up monthly changes in levels of employment and unemployment. The questionnaire is designed to achieve this objective.

THE INDIAN MANPOWER RESOURCE STUDY

The Indian Manpower Resource Study has different objectives than those of the CPS. It is primarily concerned with an estimation of the Indian manpower resource on specific Indian reservations and an assessment of the utilization of that source. The methodology used and the questionnaire used are not designed to indicate monthly changes in employment and unemployment.

As mentioned, an attempt is made to use the definitions of the Bureau of Labor Statistics as far as possible. A number of important changes in methodology, however, are made to accomplish the purposes of the study. In the Indian Study attention is directed to the individual, and not to the family unit as is the case in the CPS.

The sampling frame used in the Indian Study includes all persons 16 years of age or older. Persons under 16 years of age are excluded since schooling up to that age is compulsory on all reservations and therefore those under 16 are not likely to be in the labor force. The sample frame includes all persons over 16 without an upper limit on age. The reason for this is that only some elderly Indians possess knowledge of the ancient crafts for which their tribes are famous; therefore, their activity represents an important manpower resource. This difference from the CPS is made in order to improve the quality of response to the questionnaire. The quality of response is considered superior when the individual, rather than others, is questioned directly about his work experiences and general labor force orientations. Other members of a household may not ordinarily know the particulars about the type of work a particular member performs on the job. For this reason and others, the individual was questioned about his activities and no attempt was made to obtain information indirectly through spouses, parents, grandparents, or children.

In the CPS, the Bureau of the Census directs its attention to activity of the household in the week prior to the survey. In the Indian Study, however, the concern is with the individual's activity in the year prior to the survey. The longer period of the Indian Study serves to broaden the information base. Since the Indian Study is of a pilot nature, there is no provision to continue it on a monthly basis. Therefore, it was necessary to obtain the entire year's information on the basis of a single interview. Also, the year was used as the reference period because of preconceived notions that the Indian is generally attached to the labor force on a seasonal basis. His orientation to the world of work may not be on a continuous basis as is assumed for the general population.

The Indian Study definitions for labor force and unemployment differ slightly from those used in the CPS. Indians who are not looking for work because they believe no work is available are not counted as unemployed in this study even though a similar case would be counted as part of the unemployed labor force by the Bureau of Labor Statistics. The Indian Manpower Resource Study staff decided not to consider these people as being in the labor force. The reasoning for this exclusion from the unemployed category is that an Indian who spent most of one year believing that there was no work available for him and who did not look for work, would be best classified as alienated from the labor force. The exclusion from the unemployed classification of those who believe that no work is available further reflects that the Indian Manpower Resource Study questionnaire focuses on activity over the year previous to the survey whereas the CPS focuses on the previous week.

The definitional differences introduced by the IMRS method, however, are not so great as to make comparisons with the CPS meaningless. Actually, conscientious effort was made to maintain wording in the IMRS questionnaire closely resembling the wording of the CPS. Most other studies of Indian reservation economies made in previous years have not maintained the same degree of compatibility with the CPS The Census of Population, for example, had questions that very closely resemble those of the CPS. Under Census definitions, employment status relates to the calendar week prior to the date of the interview. The week was not the same for all those interviewed since the interviews were not completed in one week. No seasonal adjustments can be made on the Census material. Most of the other employment surveys conducted on Indian reservations were organized in such a way as to make comparison with national statistics impossible.[7] The questions asked and the times of enumeration were so different as to render attempts at comparison meaningless. In addition, many of these surveys were conducted by mail and there was little attempt to develop accurate population lists. Even when population lists were well developed, studies were conducted on the basis of faulty statistical design. Any conclusions drawn from such occasional studies involve considerable risks. The Indian Manpower Resource Study develops a methodology that permits retrieval of manpower information from a special population and at the same time maintains consistency with accepted manpower concepts.

THE METHOD

The Indian Manpower Resource Study was primarly directed toward an evaluation of the manpower potential as well as utilization of manpower on five Indian reservations. A sample, rather than a complete census was made on each of the five reservations studied. Reliance on sample information is based on the consideration that a small amount of relatively reliable information collected in a few weeks has more research value than a greater amount of information collected over a longer period of time. The manpower research staff was aware that a complete census had already been taken by others on some of the reservations. The findings of these other surveys, however, were difficult to interpret because of high non-response rates and because questionnaires were so simply constructed as to ignore many of the relevant questions dealing with manpower utilization. These studies made no effort to account for non-responses. A sample lends itself to calculation of error likely imposed by non-responses. What is more, the census techniques usually were area-oriented, and the more remote areas of the reservations received scant attention. Since Indians may move from one part of the reservation to another, unless due care is taken during the survey period, some Indians may well be in the most remote part of their land and not be surveyed.

A further influence in the decision to use a sample rather than a complete count is that cooperation from the indigenous population is hard to obtain. Indians have been frequently surveyed. On the Papago Reservation in Southern Arizona at least seven surveys were run in a single year and were conducted under different auspices. For example, the Bureau of Indian Affairs, the United States Employment Service, and Public Health Service, and several other academic and public organizations were active at approximately the same time.

Tribal officials do not always understand the nature of the studies and usually do not receive the complete reports even if they are aware of the purposes for which information is needed. In part, the proliferation of surveys results from different research objectives and orientations of investigators as well as from the relatively narrow distribution of results. At any rate, the residents of the reservations and particularly their elected officials are relatively unresponsive when asked to cooperate with still another research team. Tribal officials are resistant to the prospect that every member of the reservation community is to be contacted. The decision was made to develop a sampling technique to insure that no more Indians than necessary would be interviewed. A sample is always more likely to elicit the cooperation of the tribal leaders, without whom access to the Indian population is impossible in most cases.

One final consideration entered into the decision to use a sample. The development of sampling frames and sampling procedures will facilitate the conduct of future studies. Much of the cost involved in manpower surveys is the one-time cost involved in development of a sampling frame, benchmark data, and a questionnaire. Once these have been developed, future manpower surveys can be conducted at minimum expense. A standardized technique applied to longitudinal studies of one year intervals could provide accurate manpower information at a reasonable cost.

THE QUESTIONNAIRE

The questionnaire developed by the Indian Manpower Resource Study to examine the five reservations in the study is composed of several parts.[8] The first part deals with tests of employment, unemployment, underemployment, labor force participation, and non-labor force participation. The second part deals with the extent of occupational and industry experience of on-reservation Indians. A third part is oriented toward obtaining information regarding the consumption patterns of on-reservation persons in the samples. Still another portion of the questionnaire is designed to obtain information on educational and training experiences including the ability to use the English language. The last part of the questionnaire is constructed to obtain information on both individual and family income. Each part of the questionnaire will be explained below in detail.

As noted previously, little information is available on Indian labor force activity and such data is often unreliable. The IMRS questionnaire provides insights into the nature and characteristics of the Indian manpower resource whether the individual is defined as being in the labor force or capable or incapable of contributing to national output.

The question, "What were you doing most of last year?" was asked since it was considered appropriate to find out initially what Indians in the samples normally did on a calendar year basis. Responses to the question could have been several: working, with a job but not at work, looking for work, keeping house, going to school, unable to work, or retired. Also, space was provided to permit specification of any activity not covered in the listed categories. The basic reason for using the year as the period of initial reference was because it is commonly asserted that Indians are not as oriented to calendar time as is the general population. Consequently, it was believed that the year might be more useful as a reference period for Indians than activity related to the week or month. It was considered necessary after several contacts with tribal authorities to focus on the year of labor force activity since Indians may be more oriented to longer as opposed to shorter periods of time. The decision was also influenced by the preconceived notions of the researchers that a disproportionate amount of work performed by Indians was seasonal in nature.

A second preliminary question was asked relating to the year as the appropriate reference period in order to divide the persons interviewed into the categories of (1) workers and (2) those who do not usually work. The respondents were asked, "How much did you work last year?" Five possible responses were structured. First, the interviewee could have responded that he had not worked at all during the past year. If such were the response, the interview would proceed to the section containing questions for those not usually working. The remaining responses to the question provided various periods of work that the individual may have performed in the past year. The categories were one to three months, four to six months, seven to nine months, and ten to twelve months. A response in any of the four work categories mentioned provided the basis for continuing the interview to the section providing questions for workers.

QUESTIONS FOR WORKERS

Eight different questions were asked of those who responded that they had done some work during the past year. The difference between the year's activity and that of shorter time periods was bridged in the set of questions. The questions ranged from how many hours per week the individual usually worked at all jobs to what the individual did most of the previous month.

A test of underemployment was provided in the worker section, but only in terms of hours worked. Other tests of underemployment were provided elsewhere in the questionnaire. An individual who responded that he had usually worked less than 35 hours was asked to give the reason. Eleven possible responses were provided. These ranged from slack work and material shortage to the desire not to work full time.

Two questions dealt with seasonality of employment. If the respondent usually worked on a seasonal basis, the particular season worked was determined. At this point the questioning moved to the month as the period of activity. Information on labor force activity during the past month was solicited since it was not possible to restrict the interviewing period to a week as is the case with the national survey of unemployment. From this latter question, it is possible to learn the unemployment rate in accordance with national standards defining labor market attachment.

A question was also directed to the usual location of work. It was considered of interest to learn whether or not the individual was employed on the reservation. Some insights into the degree of geographic confinement of Indians were anticipated. It is commonly accepted among students of labor markets that one's degree of knowledge concerning job availability is largely dependent upon association with other workers. If it should be found, for instance, that a majority of on-reservation Indians worked on the reservation, it might be possible to conditionally conclude that the job horizons of Indians could be limited. Other information provided in latter parts of the questionnaire could support the answers obtained from this question.

The final question asked exclusively of those who reported they had worked during the past year was, "Where did you learn your present (or usual) job?" It was considered important to determine if most were taught by employers upon being hired, or if their jobs were learned from external sources such as governmentally sponsored training programs, formal schooling, or in the Armed Forces.

In short, the questions were designed to determine the extent and nature of Indian worker participation in the labor force. It should be emphasized once again that the study deals with the on-reservation population. No attempt was made to survey the off-reservation Indian.

QUESTIONS FOR THOSE NOT USUALLY WORKING

Individuals who classified themselves as not usually working were asked a series of questions designed to find out their labor force attachment on the basis of the annual concept only if they had looked for a job during the past year. If nonworkers had not looked for a job during the past year, information was requested regarding the reason they had not done so. Several categories of response were possible. Replies could have ranged from the belief that no work was available to poor health or physical disability. Responses could have been: (1) could not find work, (2) lack of schooling, training, skills or experience, (3) too young or too old, (4) family responsibilities, and (5) currently in school.

Additionally, individuals who had failed to look for work during the previous year were asked, "When did you last work at a regular full- or part-time job?" Categories were provided on the basis of years. The question made it possible to learn if they worked in the past year or two or if they had never worked at all.

Those who had worked at some time in the past years were asked, "Why did you leave that job?" Responses were structured so that answers could have ranged from health problems to unsatisfactory work arrangements.

Individuals who are not normally considered as part of the nation's work force were questioned for significant insights into causes for lack of activity. In addition to the structured answer which might not draw out the real reason the respondent had not worked or had only been marginally attached to the work force in the past, space was provided for any other reasons he might wish to volunteer.

This part of the questionnaire also was relevant for persons who had looked for work during the past year. Those who had looked were asked if they were looking for full-time work, part-time work, or both. Such probing would supply information necessary to determine the extent to which the on-reservation population might logically be expected to participate in productive work if it were available.

The method an individual used to seek work was also solicited from those persons actively seeking work. They were asked if they had checked with the Bureau of Indian Affairs, State Employment Service, private employment services, employers directly, or with friends and relatives. Any other method that may have been used was asked of those falling within the sample.

Obviously, if the person had sought work the past year, there was some reason or combination of reasons why difficulties were encountered in obtaining employment. Each interviewee could have identified single or multiple causes. For example, he may have responded to the question that no work was available in his line of work, that transportation was not available to him to reach areas where work could be obtained, that he did not know why he had difficulties, or he could have volunteered reasons other than those specifically provided.

The entire part dealing specifically with those individuals not usually working was adequate to obtain insights into the reasons Indians did not usually attach themselves to the work force during a year's period. Also, to find the reasons why they may have left jobs held in the past and been unsuccessful in finding new ones was an integral part of the purpose of this section.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

The potential for maximum utilization of the Indian manpower resource is dependent upon the extent of work experience in the immediate past. All survey participants, regardless of their labor force participation in the past year, were asked to describe their present job or their last job held in the past five years. Information sought was limited to the past five years since it was the opinion of the authors that any skills one may have had prior to this period would have been outmoded. The assumption appears realistic in light of the rapidity of technological change of recent years. The degree of skill one possesses in a given occupation depends upon practice. Even those who once possessed highly specialized skills can become unqualified for immediate utilization because of inactivity whether it be in the fields of medicine or law or academia. Skills held in the past, however, were considered more likely to fall within areas such as typing, shorthand, machine operators, or farm-related types of work. The lack of practice in most of the categories mentioned would probably render the skills obsolete. On the basis of this reasoning, an individual who had not worked in a five-year period prior to the interview was not asked additional questions in this section dealing with occupational and industry experience.

The determination of the appropriate industrial and occupational classifications was made in the IMRS survey from description of the type of work performed by the Indian worker. At first glance it might appear that the questionnaire part was largely redundant in that the same information was requested more than once. However, some persons may have had an erroneous impression about the job held in the past. For this reason, they were not only asked to describe their present or last job, but also what kind of work they were doing on the job. Further, they were asked to reveal if their activity involved working in an office, inside a building but not in an office, outside, as a helper, or with machinery. When it was indicated that machinery was used on the job, they were asked to specify the type of machinery involved.

The individual's work was classified as to industry by asking the questions, "What is the name of your present or last employer?" and, "What kind of business or industry is this?" The one was meant to provide a check on the other.

This part also sought to reveal any other types of employment held by the individuals in the past five years. Again, the individual was asked regarding the names of former employers and the occupation in which the individual performed his work. At this stage, the interviewee was also asked where he had learned to perform the job held. It was considered desirable to identify whether the place of learning was on-the-job, a government training program, Armed Forces, formal education, or some other source.

As previously mentioned, it was considered important in the IMRS survey to attempt to gain all possible information as to the existence of underemployment on reservations. For this reason, respondents were asked if they had been trained for any type of work that had not been listed as falling within their work histories. In states with large Indian populations, rumors have it that it is not at all uncommon for individuals to leave the reservation to obtain either formal higher education or vocational training and then return only to reservation inactivity. Such skills, if indeed in existence, would represent serious underemployment to the extent that the skill can be considered superior to the work currently performed. Such underemployment, if it exists, may be voluntary to the extent that work off the reservation would be available in the area of competency. It is desirable to determine whether such cases exist among the on-reservation populations.

As a check against some skills that individuals may possess and yet not have reported, and as a means to determine the extent that employed Indians had received labor union organizational attention, information was solicited regarding labor union membership. From this information, insights may be gained as to the degree of the Indian's general integration into the mainstream of economic life.

This part of the survey was considered adequate to obtain data regarding the extent and nature of on-reservation population work experiences. Cross-tabulation of the questions presented in this part with those of other sections broken down as to sex and age group provide significantly more information about Indian work patterns than has heretofore existed.

EDUCATIONAL ATTAINMENT OF THE POPULATION

The types of educational training required to make Indians more employable depends largely upon the general educational attainment of the Indian population. Information as to the general level of Indian education is desired by businesses that might consider reservations for the location of operations. In short, it is necessary to determine the educational attainment of the manpower stock and to assess the particular manpower needs to enable adjustment in the shortest possible period to a future manpower stock that is trained at least to the level of the general population.

The current educational attainment of the manpower resource of a reservation was determined by asking individuals, "What is the highest grade of school you have completed?" A follow-up search was also made to determine how many had received either a high school diploma or its equivalent through the General Education Development (GED). Also, information as to the existence of college trained persons is desirable for determining not only underemployment but also the potential stock of manpower resources. An effort was made to ascertain the academic areas in which college degrees were obtained.

Technical and vocational school certificates were also considered an important aspect of a reservation's manpower stock potential to provide productive services. Individuals were asked not only if they had completed such training, but also what specific training they had received. The proportion of manpower resources for possible future utilization was measured in part by asking, "Are you now enrolled in a school or training program?" Such information was considered important in determining the future stock of available manpower.

One of the most important survey areas where information is needed is how well Indians know the English language. The development of reservation manpower skills might require initial programs to teach English to adults. It was generally assumed that the younger generation had received adequate formal education to possess acceptable fluency with the English language. The IMRS survey first asked, "What language is spoken most frequently in your home?" Primary interest was in whether it was an Indian language or English. However, space was provided to ascertain whether some other language, possibly Spanish, was most frequently spoken. It was conceivable that Spanish would be the basic language on reservations reflecting Spanish influence. The Papago, Acoma, and Laguna Indians have considerable Spanish influence in their histories.

Separate questions were asked to determine whether the respondents spoke or read English. It was recognized that the language spoken most frequently in the home, particularly if an Indian language, might have little to do with the individual's ability to communicate in English. A command of the English language has a considerable impact on whether or not translators are needed when work crews are organized by employers. Language ability also would influence the rapidity of individual development in on-the-job training or institutional training programs that might conceivably be established on reservations. The questionnaire sought to provide such information.

FAMILY RESPONSIBILITIES

It has long been recognized by labor economists that sex, age, and family responsibilities influence the permanency of labor force attachment. Sex and age data were obtained from the same reservation population rolls used to select the samples. These data are used extensively to correlate such data as educational attainment for the purpose of analyzing reservation manpower characteristics.

Specific questions in the IMRS survey dealt with marital status and the number of children in the Indian respondent's immediate family. It is necessary to determine if there is a correlation between family responsibilities and labor force participation. Cross-tabulations between the family responsibility data and individual and family income data also provide insights into the economic necessity of maintaining the extended family unit.

CONSUMPTION PATTERNS

Considerable recent attention has been directed to white merchants operating trading posts under monopoly conditions on reservations. The sole power and authority in the appointment of traders to the Indian tribes is vested in the Commissioner of Indian Affairs. Usually, tribal councils approve the trading post license applications presented to them.[9] The general government policy toward trading posts has traditionally been to encourage Indian ownership. In reality, it appears that the lack of both managerial skills and investment capital have necessitated non-Indian ownership and control of trading posts. The leasing of Indian land requires tribal consent along with that of the Secretary of the Interior.[10] Thus, a merchant successful in obtaining tribal council approval would generally be extended the right to establish operations on Indian land.

Once established on reservations, trading posts and other businesses enjoy virtual monopolies. By general agreement they do not compete with one another.[11] Increased access by Indians to the stores in surrounding cities, however, has jeopardized the monopoly position of reservation merchants. Other studies dealing with reservations have asserted that the competitive threat posed by off-reservation businesses is met by trading posts extending credit.[12] The policy of credit extension is allegedly for the purpose of getting most of the community's income spent before it is earned.

No attempt was made in the IMRS study to assess the impact of traders on the five reservations. The survey questions directed to expenditures and credit were for the purpose of determining (1) the possibility of greater Indian participation in the ownership and operation of on-reservation businesses and (2) the ability of Indians to commute to adjacent communities to shop. It was assumed that if a particular individual or family purchased automobile repairs or gasoline or frequented off-reservation shops they conceivably could commute to jobs located off the Indian lands.

Respondents were asked where their families usually purchased three types of goods and services: groceries, automobile repairs, and clothing. Responses recorded could show that the families bought (1) on the reservation, (2) off the reservation, (3) half and half, and (4) not known. Following the question as to the place of purchase, the individual was asked about the method of payment. It was of particular interest to learn if payment was by cash, credit, or was not known by the respondent. No attempt was made to find out the dollar amount of purchases.

INDIVIDUAL AND FAMILY INCOME

An attempt was made in the survey to find out the sources and totals for individual income and for family income, both earned and unearned. In addition to finding out sources of money income, an attempt was also made to learn about sources of non-money income received during calendar 1967.

The questionnaire included a long list of possible sources of money income. Possible responses to the questions ranged from gifts from children or relatives or churches to earnings from the sale of handicrafts and assistance payments from the Bureau of Indian Affairs or other public or private sources. The individual was then asked to reveal his own income and the total family income for 1967.

The income part of the survey was intended not only to construct a profile of on-reservation poverty, but also to attempt to discover if earned and unearned income in an extended family environment was sufficient to discourage labor force participation. A reasonable assumption is that income sharing on Indian reservations has essentially the same effect as predicted by Lewis' model of a dual economy. [13] The marginal productivity of the individual may approach zero, but he is still able to share in average productivity of the extended family. The types of jobs available to many individuals living on reservations may not provide the incentive to attract them into the labor force. The discomforts of work and time schedules thus may not be adequately compensated relative to leisure made possible through income sharing by the extended family, along with other possible transfer payments. Responses to the income part of the questionnaire provide insights into a possible lack of incentive for work.

SAMPLING PLAN

The overall strategy for the survey involved several steps. First, a questionnaire was developed and tested. The questions generally concentrated on individual experiences that would permit extensive description of the nature of Indian manpower utilization. Second, population lists were developed for each reservation for the purpose of sample selection. Finally, interviewers from each reservation were selected and trained to deal with the perceivable problems that might arise in the conduct of interviewing. Continuous direction was provided during the interview period.

Population Lists. The reservation population lists were drawn from different published sources and offer sampling problems. The most reliable tribal rolls for the two reservations in New Mexico were maintained by the Bureau of Indian Affairs. These tribal rolls provided the primary sampling frame for the Pueblo of Laguna and the Pueblo of Acoma. As provided, the Laguna tribal roll was highly inaccurate. The list was devised so that all members of the tribe appeared regardless of whether they resided on or off the reservation. In addition, many deceased members of the community had not been deleted from the list. For the IMRS survey, improvement in the list was accomplished by a twofold approach. First, the Laguna officials did review their copy of the roll on an occasional basis. They had reviewed the list recently enough to indicate a few of the members who had either died or moved from the reservation. Second, eight members of the community were assembled to review the names remaining on the roll and names were deleted from their knowledge of the population. Approximately one-third of the remaining names were removed from the list in this fashion.

It was recognized at this time that the status of many people who appeared on the roll was unknown. The eight members and even several other consultants could not say with certainty if these people were on the reservation. Since the Laguna community was comprised of only a few thousand people, the IMRS research staff surmised that a number of those not known were not on the reservation. Persons not known were, however, included in the sampling frame. The inclusion of unknowns in the sampling frame did not introduce a sampling bias since if they were not on the reservation and their name appeared in the sample, the non-response was from a person not in the population of interest. As it turned out, 50 percent of the people included in the sample fell into this category. In effect, the BIA list included more than twice as many names as there were residents on the Laguna Reservation at the time the interviews were taken.

Essentially the same procedure was adopted to edit the Acoma list. The tribal officials at Acoma did not have an annotated tribal roll. It was eventually found that 52 percent of all people listed by the BIA as residing on the Acoma Reservation did not in fact live there.

The Papago and San Carlos Reservation lists were maintained by the Indian Health Service. These lists proved to be of better quality than the BIA lists for the New Mexico reservations. The Papago list was based on a complete census taken by the Indian Health Service less than a year prior to the manpower study. The Papago Indians, however, are found to be highly mobile. Movement on and off the reservation was common and frequent. Thus, approximately 34 percent of the people included in the Indian Health Service list were not on the reservation at the time of the survey. The Papago Indians are so mobile that no population list, regardless of age, can be considered highly reliable. The San Carlos list was older than the Papago list, but it proved to contain fewer errors.

The list used on the Fort Apache Reservation was developed from records kept by the tribe. The tribal list is maintained for the purpose of present and future voting rosters. Tribal officials are elected by secret ballot. This list proved to be adequate; few Indians were not located. Funds were provided for the tribe by the IMRS to hire the necessary clerical assistance required to bring the list up to date. The list was then later edited by tribal women provided by the Arizona State Employment Service branch office. The final result was a population roll that was the most accurate of all sources. By contrast, the Laguna officials are elected by a show of hands at a poorly attended general meeting. The Laguna Reservation, therefore, has virtually no need to maintain highly accurate lists, whereas the political structure of Fort Apache requires an accurate list.

The IMRS experiences suggest that the reliability of population lists provided by the BIA is poor. Lists provided by the Indian Health Service are of reasonably good quality in most cases. The most accurate source appears to stem from tribal sources when an effort is made to maintain a reliable list.

SAMPLE SIZE

The sample size for each reservation is related to population characteristics, such as proportions and means, that were to be developed in the survey. Since the questionnaire focuses primarily on frequency of response to certain questions, the sample size was determined with reference to the standard error of the proportion.

The specification adopted for the planned error is that the standard error for a 20 percent characteristic not exceed 1.5 percentage points. This means that a sample estimate of 20 percent should be capable of establishing a 95 percent confidence limit of 20 ± 1.96 (1.5), or approximately 17.0 - 23.0 percent, for the true value for the entire reservation. This is a relative error of 1.5/20 or 7.5 percent. The relative errors for characteristics exceeding 20 percent will then be less than 7.5 percent. For characteristics occurring with less than 20 percent frequency the expected sampling errors will exceed the 7.5 percent figure.

Given the restriction that the relative error for 20 percent characteristics not exceed 7.5 percent, sampling theory is used to find the requisite sample size. Taking account of the finite sizes of the population sampled, the error formula is

$$V^2 = \frac{q}{np}\left(\frac{N-n}{N}\right)$$

Where V is the error limitation of .075, i.e., 7.5 percent
p is .20, i.e., 20 percent
q is 1-.20, i.e., 80 percent
N is the size of the population
n is the sample size

Restated to solve for sample size, this formula becomes

$$n = \frac{Nq}{V^2Np + q} = \frac{.80N}{(.075)^2\ (.20)N + .80}$$

For some illustrative population sizes, the required sample sizes are shown below:

Population frame	Sample size
1000	420
2000	530
3000	580
4000	610
5000	630
Infinite	710

These sample sizes will yield estimates for the mean of a normally distributed variable that have high assurance (95 percent) of being correct within 2.6 percent; 95 percent confidence limits can be established for the mean of a highly skewed variable within 5.4 percent. The relative errors for percentage characteristics or for totals based upon them will depend on the sample percentage obtained. These sample sizes will provide estimates within 7.6 percent of the true value (with 95 percent confidence) for 50 percent characteristics, within 15 percent of the true value for 20 percent characteristics (the original error specification), and within 22 percent of the true value for 10 percent characteristics.

Table I shows both the sample sizes that were planned and those that actually resulted. Those planned for each reservation were for the purpose of keeping the standard error of the proportion at the level of .015.

TABLE I

PLANNED AND ACTUAL SAMPLE SIZES

	Planned	Actual
Laguna	527	261
Acoma	500	240
Papago	580	382
Fort Apache	550	554
San Carlos	524	350

The planned sample sizes ranged from 500 for the Acoma Reservation, which was the smallest community in the study, to 580 for the Papago Reservation, which was the largest reservation in terms of the 16 years of age and over on-reservation population. Despite the fact that there were more than twice as many names on the Papago population list as compared to the Laguna population list, the difference in the planned sample sizes was only 80. The method used brought about this situation.

The actual size of the sample for each reservation was affected by non-responses on each reservation. The fact that some of the sampling frames included many people who no longer resided on the reservation resulted in reduced sample sizes. On the Laguna Reservation, for example, 527 names were selected from the modified population list provided by the Bureau of Indian Affairs. Only about half of those individuals selected were actually on the reservation and as a result the sample size turned out to be 261.

On the Fort Apache Reservation, a somewhat different sampling procedure was followed. Since this reservation was surveyed after experience with the Laguna and the Acoma Reservations, it seemed obvious that the actual sample size would be smaller than the planned sample size unless the sample were inflated. A pretest of the population list was run to determine its accuracy. A sample of 686 was drawn in the hope of getting 550 responses and actually 554 usable responses were obtained from the effort. This is the only reservation for which the standard errors are equal to the desired levels. In all other cases, the standard errors of the proportions are larger than intended. These standard errors are not so large as to make interpretation of the statistical results difficult. The standard errors of the proportions for a 20 percent characteristic, given the actual sample sizes used on each reservation, are reported in Table II.

TABLE II
ACTUAL STANDARD ERRORS FOR A 20 PERCENT PROPORTION
(By reservation)

Laguna	.021
Acoma	.022
Papago	.019
Fort Apache	.015
San Carlos	.020

Planned error was .015

The preceding discussion applies to sampling errors associated with estimates of the reservation population as a whole. In the survey, however, various subgroups of the population were examined. Some of these subgroups are relatively small and the sampling errors associated with these subgroups are larger than those of the general population. Findings for some of the small subgroups are presented in this study even though sampling errors are large. This has been done because some of the information is very suggestive and because little other information on the particular subject is available. The reader is advised, however, to interpret subgroup data with caution. Differences in subgroup data must be large if the differences are to be statistically significant.

PROCEDURE FOR DRAWING SAMPLING UNITS

The procedure for selecting sampling units was structured so that the advantages of geographic stratification would be present. The sampling lists were organized so that all people in a given community were grouped together. The sampling list for each reservation may be viewed as a series of lists representing the smaller communities on the reservation. Each of the smaller communities represents a stratum within the list. The number for each reservation is reported in Table III.

The communities vary widely in size. In some cases, the population of a community may be less than 25 persons; in other cases, the population may be 1,000 or more.

The sampling takes advantage of any tendency for the characteristics under investigation to vary systematically by community. These gains in accuracy from effective stratification by community tend to reduce the sampling error below that of an unrestricted random sample of comparable size. On the other hand, inability to question some individuals selected in the sample, due to errors remaining in the edited reservation lists, tends to increase sampling error. Even so, errors remain within tolerable limits.

Interpenetrating replicate subsamples were drawn from the stratified sampling list. [14] That is, instead of drawing one large sample, a number of smaller samples were drawn. The number of subsamples was set at ten.[15] For example, if a sample of 400 were desired, ten subsamples of forty would be drawn. The number of subsamples selected is large enough to make calculation efficiencies possible but is not so large as to interfere with the stratification of the sampling list.

The first step in the selection of the sampling units was to divide the sampling list into equal zones. The number of zones in the sampling list is equal to the number of elements in a subsample. Each and every zone provides one observation for each of the ten subsamples. Thus, if the sampling list contains 4,000 names and a sample of 400 is desired, then the sampling list would be divided into forty zones, each with 100 names.

TABLE III

NUMBER OF COMMUNITIES ON EACH RESERVATION

Laguna	7
Acoma	2
Papago	54
Fort Apache	10
San Carlos	11

The selection of the elements to be included in each subsample was made on a systematic basis. The first unit of each subsample was selected at random from the first zone of the sampling list. The subsequent units included in each subsample were selected by adding a number equal to the zoning interval to the random start. An example of a sample selection is illustrated in Table IV. This table assumes that there is a list of 4,000 names from which ten subsamples of forty each will be drawn. This means that there are forty zones with 100 names in each zone. Selection of the starting numbers is without replacement.

TABLE IV
AN EXAMPLE OF A SAMPLE SELECTION TABLE

	Subsample									
Zone	1	2	3	4	5	6	7	8	9	10
#0001 - 0100	55	27	68	etc.						
#0101 - 0200	155	127	168	etc.						
#0201 - 0300	255	227	268	etc.						
– – – –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
#3901 - 4000	3955	3927	3968	etc.						

Strengths of the Method

There are several strengths in the method as designed. It achieves the advantages of geographic stratification. The larger communities on each reservation are weighted more heavily in terms of sampling units selected than are the smaller communities. In addition, by concentrating the interviewers in different communities, any interviewer bias that might be present is spread over a number of subsamples. The method is also convenient for simplifying the calculation of standard errors. Since there are hundreds of estimates of proportions for each reservation, this last advantage is of major significance. The standard error of any proportion can be estimated through the examination of subsample proportions. The standard error can be calculated by subtracting the lowest subsample proportion from the highest subsample proportion and dividing by the number of subsamples.

$$\hat{\sigma}_{p} = \frac{P\ \max - P\ \min}{10}$$

The estimate of the total proportion is computed through the aggregation of all ten subsample frequencies.

Selection and Training of Interviewers

Selection

Selection of interviewers for most reservations was generally a multiprocess procedure. The tribal officials on the two New Mexico reservations were dealt with directly and presumably they personally contacted all who were interested in working as interviewers. The Laguna officials announced the job opening in their tribal council meetings. Applications were picked up and returned to both the

Acoma and Laguna tribal offices. Final selection of interviewers was the responsibility of the IMRS researchers. As it turned out, this final responsibility did not pose much of a selection problem since more interviewers could have been employed than actually applied. The experience on both reservations can be aptly described as one of attrition with constant attempts to replace. Interviewing was begun April 10, 1968, and did not end until June 7, 1968. The extended interview was attributed to the recruiting and retention problems encountered.

Recruiting on two of the three Arizona reservations did not prove to be as difficult as it was in New Mexico. The primary reason for this was the existence of Arizona State Employment Service offices on the Fort Apache and San Carlos Reservations. Personnel in charge of the on-reservation State Employment Service office took full responsibility to recruit interviewers that were well qualified to perform all the required tasks. Care was taken to obtain workers in accordance with their place of residence on the reservations. The strategic physical location of Indian interviewers throughout the reservation was calculated to provide maximum familiarity with persons selected in the sample. Selection of interviewers by district of residence was also calculated to keep down the refusal rate since it was considered more difficult for an interviewee to refuse his neighbor than someone who resided in a remote area of the reservation.

The Papago Tribe posed a special problem for interviewer recruitment. The very simplicity of the reservation political structure makes decision-making complex. A decision to cooperate with the manpower research effort was made by the tribal council. Selection of interviewers was the responsibility of the twelve district councils. Information regarding the necessary qualifications such as access to transportation was either slowly relayed to the districts or ignored.

Most of the responsibility for communicating information of all types to the districts, including the date and time for reporting to work, was delegated to the person in charge of the Arizona State Employment Service office located on the reservation. There was no communication breakdown between the research team and the individual in charge of the employment office. May 1 was designated as the date for all twelve district chosen interviewers to report for training. Four made themselves available. The same pattern repeated through May 4 when the IMRS research team decided to eliminate the Papago Tribe from the study.

After a week had passed, a new attempt was made to find the required number of interviewers to collect data. Five Employment Service personnel appeared May 13 to assist in recruiting and training of interviewers. Recruiting involved travel to some remote reservation districts to find individuals to handle the interviewing chores. Fifteen different individuals worked at some stage of data collection until the task was completed on June 15, 1968. The data obtained were worth the difficulties encountered.

In summary, it is obvious that selection of interviewers can often leave much to be desired. On some reservations the tribes participated enthusiastically in the selection process. Once interviewers were found and trained, they performed quite well. The ones who did not were replaced, and in all cases replacements proved adequate.

TRAINING

The very first order of business in interview instruction was selection of a head interviewer who would supervise the entire effort on each reservation. Care was taken to find someone as familiar as possible with the entire reservation and the Indian people.

The head interviewers were trained prior to involving any of the others selected. After a thorough drilling in the procedures to be used and the purpose of each question asked, they were sent out to make ten interviews. Usually, two days were allotted to complete the assignment. The head interviewer reported back to the investigator in charge of the reservation and a complete review was made of all work. There was ample opportunity to make any changes in the questionnaire, which might be required due to the uniqueness of the particular reservation. Once all problems were resolved, the other interviewers were called upon to participate in the training session. The head interviewer was available to answer any questions that arose if the instructor had not adequately communicated with the group.

The Materials Provided. All interviewers were provided with a standard packet of materials. These materials included a portfolio which contained (1) pencils, (2) a note pad, (3) a clip board, (4) a copy of the questionnaire, (5) control sheets, and (6) instructions for completing the questionnaire.

The Instructions. The group of interviewers was informed of the precise nature of the study with which they were involved. It was necessary to explain the basic purpose in detail since they would have to explain it to the satisfaction of Indians selected in the sample before cooperation with the interviewer could be expected.

The instruction sheet was reviewed prior to proceeding to instruction on the questionnaire.[16] The group was taught to arrange the sequence of calls so as to minimize wasteful travel from one end of the district to the other. The sequence of calls was to be arranged by the interviewer on control sheets.[17]

The control sheet was developed for an additional purpose. First, if a respondent was found at home on the first visit, the date the interview was made was to be recorded in the first column along with a check beside the date if the interview was completed. Space was provided for comments if the respondent refused to cooperate.

Three spaces were provided to record the date and time respondents were visited. If a respondent were not at home upon the first visit, the date and exact time was to be recorded. The purpose for the time was to permit the interviewer to call at a different time on call-back. After three separate calls were made and a respondent was not found, the interviewer referred the case for close out. At this stage the supervisor made a last effort to locate the respondent. Failure at this stage resulted in a closed case. Generally, replacement was not considered in such situations.

The control sheet was also used to trace individuals who had moved to other reservation districts. Such cases were referred to interviewers responsible for the districts designated. Information was also recorded on individuals who had moved off the reservation. No attempt was made to follow them.

A procedure was also provided the trainees for opening interviews. Identification tags associating them with Arizona State University were worn by all interviewers. After a brief explanation of his mission, the respondent was to be handed a questionnaire to follow along during the interview if he could read English.

Some basic rules for asking questions were also reviewed. The trainee was taught how to react when respondents hesitated to provide confidential information and how to restrain himself from any tendency to suggest answers. A review of the questionnaire was also required prior to leaving the respondent.

The Questionnaire. The next phase of the training session involved a detailed discussion of every question appearing on the questionnaire. Trainees were given every opportunity to inquire further into the nature of each question in order to acquire the best possible understanding of the type of information desired. Usually, there was no hesitation to ask questions.

Mock Interviews. Mock interviews were conducted during the final phase of the training session. Trainees were arranged in pairs and took turns interviewing each other. Interviewing procedures and problems, which may have been ignored or unnoticed during the discussion periods, were clarified for trainees during the mock session.

Training sessions were concluded by providing trainees with packets of ten questionnaires, each identifying the respondents selected in the sample. Constant contact with the interviewers was maintained throughout the enumeration period by either investigators, head interviewers, or Employment Service personnel. Replacements were used very frequently since retention was difficult.

NOTES

[1] William A. Brophy and Sophie D. Aberle, *The Indian: America's Unfinished Business* (Norman: University of Oklahoma Press, 1966), pp. 16-17.

[2] *Ibid.*, p. 22.

[3] *Ibid.*

[4] U. S. Department of Labor, *Handbook of Labor Statistics, 1967*, Bulletin No. 15555 (Washington, D.C.: U. S. Government Printing Office, 1968), p. 1.

[5] President's Committee to Appraise Employment and Unemployment statistics, *Measuring Employment and Unemployment* (Washington, D.C.: U. S. Government Printing Office, 1962), pp. 13-29.

[6] *Ibid.*

[7] Reference is made here to specific studies run by or for the Bureau of Indian Affairs that are seldom published.

[8] The questionnaire is attached as Appendix I.

[9] Association of American Indian Affairs, *Federal Indian Law* (New York: Association of American Indian Affairs, Inc., 1966), pp. 376-78.

[10] *Ibid.*, p. 376.

[11] William Y. Adams, *Shonto: A Study of the Role of the Trader in a Modern Navajo Community* (Washington, D.C.: U. S. Government Printing Office, 1963), p. 169.

[12] *Ibid.*, p. 170.

[13] W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour," *The Economics of Underdevelopment*, ed. A. N. Agarwala and S. P. Singh (New York: Oxford University Press, 1963), pp. 400-49.

[14] W. Edwards Deming, *Sample Design in Business Research* (New York: John Wiley and Sons, Inc., 1960), Chapters 6, 21.

[15] *Ibid.*

[16] The instruction sheet is provided in Appendix II.

[17] An example of a control sheet is illustrated in Appendix III.

Chapter 2

The Fort Apache Reservation

The White Mountain Apache Tribe inhabits the Fort Apache Indian Reservation. The reservation is located in the White Mountains of eastern Arizona approximately 200 miles from the two largest metropolitan centers within the state, Phoenix and Tucson. The reservation itself contains 1,664,872 acres of land with a varied topography and climate. The southwestern portion has an elevation of approximately 2,700 feet and is semi-arid in climate; annual precipitation is about 12 inches. The mountainous area of the reservation reaches an elevation of 11,459 feet, which is above the timberline. Annual precipitation averages about 30 inches in the highest areas.

The on-reservation population is estimated from the tribal-maintained roll to total 5,159. At the time the sample was drawn, May 1, 1968, the total population 16 years of age and over was estimated at 2,166. This number does not include persons that may have recently moved on the reservation.

This study of the Fort Apache Indians will deal with on-reservation employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

ON-RESERVATION NONFARM EMPLOYERS

The White Mountain Apache does not appear to be nearly as mobile to off-reservation places as members of some other tribes. This apparent immobility is largely explained in terms of the extent of nonfarm employment opportunities on the reservation and an elaborate system of income sharing. The income-sharing feature will be dealt with in a later section. Employment on the reservation by source in July, 1968, is reported in Table I. The table contains the employer reports of the employment level in July, 1968, when the information was requested by the State Employment Interviewer, and employer estimates of Indian employment during the seasonal peak. In July, the total number of Apaches employed was 858. How-

TABLE I

FORT APACHE RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed Current July, 1968	Seasonal Peak
Hatchery	5	5
Public school	21	36
Bakery	7	7
Construction	13	15
Railroad	10	10
General stores	36	38
Arizona State Employment Service	2	2
Restaurants	9	9
Bureau of Indian Affairs	93	109
Bureau of Indian Affairs (Firefighters)		250
Orphanage	10	10
Mission school	2	2
Lumber sales	176	176
Electric light and power	1	1
Lumber mill	88	88
U. S. Public Health Service	43	43
Logging company	62	62
Sawmill	44	44
Fort Apache Tribe	236	333
TOTAL	858	1,240

ever, the various seasonal peaks require the services of 1,240. The 858 mentioned largely reflect permanent on-reservation employment. Permanent employment is construed to mean relatively regular work, but does not mean full utilization of the human resource. Opportunities for nonfarm employment on the reservation appear relatively large as reservations go. The Arizona State Employment Service estimate in 1961 was that 865 men and women were employed on wage or salaried jobs and still another 120 were self-employed.[1] Some progress has been made since 1961; the employment total published by the State Employment Service included both farm and nonfarm jobs. Only nonfarm jobs are reported in Table I. Even so, the progress made in developing jobs has not been enough.

The largest single employer on the reservation is the Fort Apache Tribe itself. As of July, 1968, it provides approximately 236 permanent jobs distributed throughout the various enterprises operated as tribal endeavors. The 1968 seasonal peak of tribal employment provided 333 jobs for Apache members. A great deal of the seasonality of work results from efforts in developing tourism and recreational facilities.

Lumbering operations involving several employers provided significant opportunities for reservation people. The categories labeled lumber sales, lumber mill, sawmill, and logging company provide 370 jobs on both a permanent and peak basis. The tribe also devotes some of its own resources to sawmill and lumbering operations.

The Bureau of Indian Affairs is an important employer for the White Mountain Apache, as it is on most reservations. The agency reports ninety-three jobs considered as permanent, but during the peak employment season the total increases to 359. The higher number is due mostly to 250 firefighters employed during the season when the risk of forest fires is great. The agency provides various services to the Indians requiring the employment of Apaches to assist in the administration and operation of details.

Several other employment sources exist on the reservation. Individually, they do not employ as many as do the employers mentioned, but collectively quite a few jobs are provided. Included among these employers are the U. S. Public Health Service, public schools, trading posts or general stores, a bakery, and a railroad.

In summary, nonfarm opportunities are varied on the Fort Apache Reservation. Individuals depend largely upon the tribe itself, lumbering, and the Bureau of Indian Affairs for employment opportunities. The varied sources of employment are, however, available.

If the full nature of the on-reservation human resource were known, further expansion of employment opportunities might be facilitated. We turn now to view the characteristics of the manpower resource revealed in the IMRS survey.

Characteristics of the Manpower Resource

The Fort Apache on-reservation population 16 years of age and over of 2,166 in 1968 was composed almost equally of males and females. Table II reveals the age group percentages for the 50.7 percent males and 49.5 percent females.

TABLE II

FORT APACHE POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	16.2	8.0	11.4	5.8
20-29	29.4	14.5	30.4	15.4
30-39	20.2	10.0	20.7	10.5
40-49	12.5	6.2	13.9	7.1
50-59	5.9	2.9	10.0	5.1
60-69	12.5	6.2	10.7	5.4
70-79	2.9	1.5	2.5	1.3
80-89	0.4	0.2	0.0	0.0
100-109	0.0	0.0	0.4	0.2
TOTAL	100.0	49.5*	100.0	50.8*

N = 272 females; 280 males.

* The two categories combined do not sum to 100 percent due to rounding.

Age and Sex

The 20-29 age group for both males and females is the largest category. The combined total for this age group constitutes 29.9 percent of the total population with men accounting for 15.4 percent and women 14.5 percent. Men aged 20-29 provide 30.4 percent of all on-reservation males defined as being of labor force age. Women in their twenties account for 29.4 percent of all females of labor force age.

The age 30-39 category is the second largest group of the population. Combined, both sexes account for 20.5 percent of the total. As in the 20-29 group males outnumber females in the 30-39 groups. Men constitute 10.5 percent of all persons in the age bracket and 20.7 percent of all males, while the women 30-39 constitute 10.0 percent of all on-reservation Indians and 20.2 percent of women of all age groups.

Teen-agers between 16-19 years of age account for 13.8 percent of the total working-age population. Females, however, are more numerous than males in this age group. Except for this group and the 60 and above group, males outnumber females. In the teen-age category, females account for 8 percent of the tribal population, but males comprise only about 6 percent. The teen-age male makes up about 11 percent of all males; females in their teens of working age are more significant among all women, accounting for 16.2 percent of the total.

Apache men in the categories between ages 40-59 account for 12.2 percent of the total reservation Indian population. Women of the same ages account for only 9.1 percent of the total. Women in their fifties constitute a lesser proportion of the total population (2.9 percent) than any single group of men or women except those categories over age 70. The death toll among tribal women must be heavy for those reaching the fifties.

Apache women that survived their fifties appear to have done better than men in that they account for 6.2 percent of the total population and men only 5.4 percent. Of females, those aged 60-69 constitute 12.5 percent. Men in the same group account for about 11 percent of all males.

Slightly more women than men reach their seventies. Females aged 70-79 make up 1.5 percent of the population: the percentage of males in this age group is less (1.3). None of the men sampled claimed they were in their eighties, but less than one half of one percent of the females did make such a claim. About the same percentage of males (0.4) contended they were between 100-109. Individuals of such advanced age may or may not be as old as they claim. Record keeping was not done on any careful basis in the 1860's. For that matter vital statistics are relatively recent additions to the records. Whatever the actual age, the years of life professed by a few are many. Approximately 49 percent of the total Fort Apache working-age population are men between ages 16-69. Stated in another way, slightly over 97 percent of all males can logically be included as within the working-force limits. Women within the same category, 16-69, account for nearly 48 percent of the total on-reservation population; and this group constitutes nearly 97 percent of all females. Even if all persons over age 65 could be labeled as unavailable for labor force activity under all circumstances, it is obvious that of the total population most are still capable of performing work when age is the only variable considered. In short, the White Mountain Apache Tribe has the age composition to supply a sizable work force.

Additional characteristics of the Fort Apache population were ascertained through the research and provide more explicit information regarding the labor force potential of the White Mountain Apache.

FAMILY CHARACTERISTICS

Marital Status. Marital Status may be taken as an indicator of the need for individuals, particularly men, to permanently attach themselves to the labor force. Table III reveals the marital status of the Apache population on the basis of 553 responses to the question seeking such information.

TABLE III

MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	55.5
Widowed	8.7
Divorced	2.9
Separated	1.6
Never-married	31.3
TOTAL	100.0

N = 553

Approximately 56 percent (55.5) of the working-age population is married; however, a considerable percentage (31.3) has never been married. It may well be that many in the latter group are unable to enter marriage for financial reasons. Common-law marriages may well be a factor among the unemployed; they may or may not consider themselves married. Possibly, a fourth to a third of the never-marrieds are too young to marry since they may yet be enrolled in high school. On the other hand, there is enough population imbalance by age to account for the inability of some to marry. It will be recalled from the previous discussion of Table II that men outnumber women in every age category except the 16-19 and 60-69 age groups. This fact is especially critical since to find mates may require moving to other Apache reservations. There is, of course, no assurance that the situation would be different elsewhere. For whatever reasons, the fact remains that a significant percentage of the working-age population has never married.

Nearly 9 percent of the population are widowed, but divorce accounts for approximately 3 percent. Further, almost 2 percent revealed that they are separated from their mates. Divorces and separations combined constitute 4.5 percent of the working-age population. The White Mountain Apache family structure appears to be relatively stable; however, it is less so than that reported for the Papago reservation. It is not known to what extent financial difficulties burden families and account for dissolution of marriages.

Characteristics of family structure influencing working-force attachment can be provided in part by determining the number of children for whom basic subsistence must be provided. Table IV reveals the frequency of number of children in Fort Apache responses.

Number of Children. The median number of children based on information provided by respondents is two. However, it is clear that

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	34.6
One	8.0
Two	11.1
Three	9.2
Four	8.9
Five	9.4
Six	5.6
Seven	4.7
Eight or more	8.5
TOTAL	100.0

N = 552

the table reflects responses of many individuals who have never been married and generally would have no children anyway. Nearly 35 percent reported no children.

It is apparent also that the White Mountain Apache Tribe contains some relatively large family units. Nearly 9 percent have eight or more children. Approximately 5 percent have seven. In addition, in each separate category 9 percent of the population have either three, four, or five children. It is recognized that the number of children reported do not necessarily represent dependent children. As a matter of fact, age is not the sole determinant of dependency, given the nature of extended family life. The mere fact that an individual is twenty-five years of age, for example, does not automatically suggest independence from the family for support. Some individuals in the older age groups are as dependent upon families for economic support as they were at a younger age.

TABLE V

NUMBER OF CHILDREN BY MARITAL STATUS

(Percent)

Marital Status		Number of Children									Info. not Avail.	Total
		1	2	3	4	5	6	7	8+	0		
Married	(1)	10.1	14.1	11.4	13.1	14.7	8.2	6.5	13.1	8.8	0.0	100.0
	(2)	5.6	7.8	6.3	7.3	8.2	4.5	3.6	7.3	4.9	0.0	55.5
Widowed	(1)	2.1	16.7	14.6	16.7	10.4	8.3	4.2	8.3	18.8	0.0	100.1
	(2)	0.2	1.5	1.3	1.5	0.9	0.7	0.4	0.7	1.6	0.0	8.8
Divorced	(1)	0.0	25.0	25.0	0.0	12.5	6.3	18.8	6.3	6.3	0.0	100.2
	(2)	0.0	0.7	0.7	0.0	0.4	0.2	0.5	0.2	0.2	0.0	2.9
Separated	(1)	11.1	22.2	33.3	0.0	0.0	11.1	11.1	11.1	0.0	0.0	99.9
	(2)	0.2	0.4	0.5	0.0	0.0	0.2	0.2	0.2	0.0	0.0	1.7
Never-married	(1)	6.4	1.7	1.2	0.0	0.0	0.0	0.0	0.6	89.0	1.2	100.1
	(2)	2.0	0.5	0.4	0.0	0.0	0.0	0.0	0.2	27.7	0.4	31.2
Info. not avail.	(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
TOTAL	(2)	8.0	10.9	9.2	8.8	9.5	5.6	4.7	8.6	34.6	0.4	100.3*

N = 552

(1) = Percent of total in each marital status category.

(2) = Percent of total responses.

* Does not sum to 100 percent due to rounding.

A better estimate of median family size can be made by refinement of the data presented in Table IV. Table V provides data regarding number of children by marital status. Such a refinement permits the elimination of the never-married group from a calculation of median children per family unit unless, of course, they report having children.

When the married category is considered separately, the median number of children is five. However, when all groups reporting children are considered together it is obvious that the median increases to six. Needless to say the median family size of the Fort Apache Indian is large, but again this is not to say that the figure reported represents dependency. Instead, it may be said that mutuality of dependence is probable because of the extended family arrangement. To a limited extent some double counting is present due to the sampling method.

It is of interest to note that nearly 10 percent of those persons never married have one child or more. Further, some of this group did not provide the information requested, but it is not known if this was intentional or merely an oversight. Nevertheless, family formation seems to extend rather significantly beyond the married category. Another consideration is the Apache definition of marriage. Some of the group may well have a common-law marriage, but the lack of a marriage license or ceremony may bear on their particular answer to the question. Others may have considered themselves married and, therefore, reported in the married category.

It is possible that the greatest proportion of nondependent children fall within the widowed group. It may well be that most children belonging to persons in this group are older than those responding in other categories. The median number of children reported by the widowed group, considered separately from the others, is 4.5.

The median number of children belonging to divorced persons is four. Those separated from spouses report a median of three. Thus, it is apparent that family responsibilities are heavy on the Fort Apache Reservation. The extent of responsibility sharing or, for that matter, perhaps shifting, will be considered in a later section.

In summary, Tables IV and V show that the White Mountain Apache family size is large. The responsibilities of family members to share the financial burden may cause some individuals to postpone or forego marriage. Alternatively, the recognized age imbalance of the population may be reflected in the never-married group. There may simply not be the proper ratio of males to females to permit some to marry. The relatively high number of children reported by the group of single persons lends some support to this assertion. Nevertheless, potential for labor force participation is high since there is an observed burden to support large families that may be shared by all members. Alternatively, marriage may permit some to escape from financial responsibilities in that burdens may be shifted to the mate.

EDUCATIONAL ATTAINMENT OF THE POPULATION

Employers dealing with the general U. S. population as a source of labor supply usually give considerable attention to the number of

TABLE VI
EDUCATIONAL ATTAINMENT OF THE POPULATION

Educational Attainment by Grade Completed	Female		Male	
	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	0.9	1.8	0.4	0.7
1	0.5	1.1	0.7	1.4
2	0.5	1.1	0.5	1.1
3	1.3	2.6	0.7	1.4
4	1.5	2.9	1.1	2.1
5	0.7	1.5	1.6	3.2
6	2.9	5.9	3.4	6.8
7	3.4	7.0	4.0	7.9
8	9.1	18.4	7.6	15.0
9	7.4	15.1	8.9	17.5
10	7.1	14.3	7.6	15.0
11	6.7	13.6	4.7	9.3
12	5.1	10.3	6.9	13.6
13	0.4	0.7	1.1	2.1
14	0.7	1.5	0.7	1.4
15	0.0	0.0	0.2	0.4
16+	0.0	0.0	0.0	0.0
Info. not available	1.1	2.2	0.5	1.1
TOTAL	49.3*	100.0	50.6*	100.0

N = 272 females; 280 males.

* The two categories combined do not sum to 100 percent due to rounding.

years of formal education completed in setting hiring standards. It is assumed that the greater the educational level attained, the greater the ability to learn a given task or adapt to new ones. Regardless of the merits of debate over establishment of some existing hiring standards, it is certain that some persons with relatively low levels of educational attainment have difficulties competing for scarce jobs. Table VI illustrates the educational attainments of working-age White Mountain Apaches. It provides insights into the current ability of tribal members to compete for jobs off the reservation. In addition, the educational attainments of working-age persons is crucial in relation to the attractiveness of the human resource potential for some employers that may contemplate reservation location.

No single respondent reported the attainment of a college degree. Yet, it is significant to note that men are more likely to undertake college education than women. Nearly 4 percent of men completed some formal college training; this group accounts for 2 percent of the total population. Only about 2 percent of women, on the other hand, reported college experience, constituting only 1 percent of the total population. It appears that the Fort Apache Reservation Indian has had only limited contact with institutions of higher learning to date. The reason may well be the lack of orientation toward occupational preparation such as is reflected in college curricula. It may also be that Apache isolation, both geographic and cultural, lowers significantly aspirations and knowledge of available opportunities. Alternatively, the cause might be the lack of desire or, for that matter, incentive to leave tribal land for any extended period of time. The White Mountain Apache does not seem to be very mobile in the direction of off-reservation locations.

Male Apaches also seem more likely than women to complete four years of high school. Nearly 14 percent of all men, representing about 7 percent of the population, have ended formal education with high school diplomas. In contrast, only about 10 percent of all women, 5 percent of the total population, have done as well. Of men and women with some level of high school completed, grades nine-twelve, 55 percent of men and 53 percent of women have some degree of experience with secondary instruction; both sexes together account for only 54.4 percent of the population. The Apache in recent years has increased his entry into high school, but the completion rate as yet is not high.

A significant proportion of both males and females drop out of school after completing the eighth grade. Women are more likely to end their educational pursuit at this point than men. Fifteen percent of men concluded with the primary grades, but 18 percent of women ended formal training at this point.

Males and females are roughly balanced in terms of years of primary grades completed. Forty-two percent of all women concluded their education at some point during the primary years whereas about 40 percent of men did. The combined total represents 41 percent of the total tribal working-age population. It is probable that the majority of those ending formal training during the primary years are largely in the older categories. This assertion is premised on the contention that the older Apaches are more oriented toward agricultural types of work than are younger persons. With the decline in demand for agricultural laborers, it is likely that fewer young Indians have been subject to interruption of their educations by farm labor recruiters than has been the case with their older relatives.

In summary, over one-half of the White Mountain Apache working-age population has completed at least the ninth grade in school. Median grade attainment is nine years. Many of the Fort Apaches have the educational qualifications, in terms of years of education completed, to train for and perform skilled tasks. It may well be that refresher courses are necessary to build the manpower resource up to an acceptable level of performance to meet the requirements of employers in many industries. Nevertheless, the investment necessary to teach basic skills does appear massive in terms of the information at hand. For skilled jobs significant training is necessary since very little formal or informal experience exists among the Apache working-age population, and it is unable to compete with the general population for the types of jobs currently available throughout industry.

Facility with English. Some prospective employers may be reluctant to locate businesses on particular reservations through concern for the ability of Indians to follow instructions in English. Three questions were asked of respondents in order to determine the White Mountain Apache's ability to communicate in the English language. The first question dealt with the language used in the home: "What language do you most frequently speak in the home?"

Nearly 76 percent of 552 respondents reported that an Indian language is spoken most frequently in the home whereas about 25 percent speak English more often. Given the isolation of the White Mountain Apache from sizable metropolitan areas, there may well be a tendency for the use of Indian language to continue in importance over time. Less than one-fourth of one percent speak a language different from English or Apache more often in their homes; this is probably due to intertribal marriage.

The second question asked dealt with the ability to speak in English. The more frequent use of the Apache language at home may not, of course, reveal the extent of facility with the English language. Nearly 93 percent of 554 respondents claim to speak English; only 7 percent of the population could not do so. It is likely that those who cannot speak English are concentrated in the elderly age groups which generally are not available for labor force participation. It is reasonable to assume that nearly all Apaches of working age can deal with the English language to some extent and should be able to follow general instructions necessary to perform simple work tasks.

The third question asked respondents: "Do you read English?" Nearly 90 percent replied in the affirmative. Ten percent, however. indicate inability to read English language publications. Probably a proportion of those unable to read do have the ability to speak with some facility. The general educational attainments of the population, discussed previously, tend to verify this assertion.

Necessary training to make the Apache employable seems to include a need for language instruction. In terms of communication, however, skills training programs for occupations that might be instituted on the reservation are likely to be successful. Job-related skills training without providing for language instruction is not likely to be successful. The extent of Indian language use in the home indicates that the individual is likely to lose his efficiency in use of the English language over time. Difficulty, therefore, may be encountered in attempts to provide specific skills training to make the Apache more employable. Attention needs to be devoted to basic educational skills before attempting to provide training for specific occupations.

UTILIZATION OF THE HUMAN RESOURCE ON THE FORT APACHE RESERVATION

The population of the Fort Apache Reservation is not known with certainty although the tribal office keeps a roll for voting purposes. This roll contains 2,684 names of people eligible to vote on tribal matters, but contains more names than there are people on Indian land. Random selection of 686 names of persons aged 16 and over indicated that 544 were on the reservation. On the basis of the sample, the population 16 years of age or over residing on the Fort Apache Reservation is estimated at 2,166, or 80.7 percent of the total reported on the tribal voting lists.

How extensively is the Fort Apache working-age manpower being utilized? One utilization measure is the labor force participation rate, which indicates the extent to which the population is committed to the labor market. Unemployment rates also indicate the degree of utilization of the population manpower resource. The following sections examine labor force participation rates and unemployment rates. In addition, the general employment and unemployment patterns of the reservation are examined. Some insight into the factors that encourage or discourage utilization of the human resource is provided through the examination of the behavior of various age, sex, and marital groups on the reservation.

LABOR FORCE PARTICIPATION

The Indian Manpower Resource Study inquired as to the major work activity of the respondents in the year prior to the survey. The question was intended to discover the percentages of the population that usually are in the labor force, usually employed, or usually unemployed. The tabulated responses to this question are presented in Table VII. The labor force is comprised of those working, those with

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	44.1
With a job but not at work	0.0
Looking for work	3.4
Keeping house	19.2
Going to school	12.3
Unable to work	18.4
Retired	0.9
Other	1.5
TOTAL	99.8*

N = 533

* Does not sum to 100 percent due to rounding.

a job but not at work, and those looking for work. Those who were not looking for work because they believe no work is available are not counted as unemployed in this study even though they would have been counted as part of the unemployed labor force by the Bureau of Labor Statistics. A consequence of this might be a substantial rise in employment with no change in the level of unemployment in absolute numbers. As more are employed, expectations may improve and the labor force may grow.

The survey classification reflects the view that people who spent most of the year believing that there was no work available in the community and did not look for work, would be best described as alienated from the labor force. Again, the IMRS questionnaire focuses on activity over the year previous to the survey while the Current Population Survey focuses on the previous month.

It can be noted in Table VII, that about 47 percent of the Fort Apache people responding to the questionnaire are in the labor force. Most of those in the labor force had worked most of the year prior to the survey and are placed in the employed category. About 3.5 percent of the population was unemployed most of the year previous to the survey.

The Fort Apache labor force participation rate of 47.3 percent is considerably below the labor force participation rate of 59.4 percent for the United States. It should be noted that this labor force participation rate compares very favorably with the labor force participation rates that are believed to exist on most of the reservations in the West. Part of the difference between the U. S. labor force participation and the Fort Apache labor force participation rate may be attributed to the differences in the age distributions of the two populations. For example, if the Fort Apache population is distributed by age in such a way that a large part of its population falls in age groups normally characterized by low participation rates, then naturally the Fort Apache labor force participation rate would be expected to be below the U. S. rate. This is exactly the situation as it exists. The 16-19 old age group is characterized by low labor participation rates throughout the United States. Even the 20-39 old Indian age group is characterized by labor force participation rates below those of the 30-69 group for the United States as a whole.

The Fort Apache population is concentrated in the 16-29 age groups as illustrated in Table VIII. While 26.6 percent of the U. S. population 16 years of age or older are in the 16-29 group, 43.7 percent of the Fort Apache population is in this younger group. This suggests that the relative youthfulness of the Fort Apache population contributes to the difference between the U. S. labor force participation rate and the Fort Apache labor force participation rate.

TABLE VIII
AGE DISTRIBUTION: FORT APACHE AND UNITED STATES
(Percent 16 years of age or older)

Age Group	Fort Apache	U. S.
16-19	13.8	8.7
20-29	29.9	17.9
30-39	20.5	20.2
40-49	13.2	18.6
50-59	8.0	14.9
60-69	11.6	11.1
70 and over	3.1	8.5
TOTAL	100.1*	99.9*

N = 554
* Does not sum to 100 percent due to rounding.
Source: U.S. Census of Population, 1960, for U.S. age distribution.

Assuming that the age distribution of the Fort Apache population were the same as for the United States, the Fort Apache labor force participation rate would probably be 49.5 percent. That is, the relative youthfulness of the Fort Apache population is the reason for approximately 2 percent of the population not being in the labor force. On the Fort Apache reservation this amounts to approximately a 1 percent reduction in the size of the labor force. The Fort Apache Reservation, with a population of 2,166, would have more than forty-five additional people on its labor force if the age distribution of its population were the same as the age distribution of the population of the United States in 1960. The age distribution of Indians may differ from that of the United States because of health factors affecting longevity.

The labor force participation rates on the Fort Apache Reservation and the labor force participation rates for the United States merit close attention and are shown in Table IX. The Fort Apache labor force participation rate is below the U. S. rate for every age group and the pattern of Fort Apache rates differs from the pattern of U. S.

rates. On the Fort Apache Reservation, the 16-19 old age group is characterized by the lowest labor force participation rates. The participation rate for the next age group (20-29) is the highest of any age group on the reservation. The consecutive age groups coming after the 20-29 age group exhibit decreasing labor force participation rates.

TABLE IX
CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Fort Apache	U. S.
16-19	25.0	44.2
20-29	59.4	67.0
30-39	57.5	70.3
40-49	52.1	73.4
50-59	45.5	74.2
60 and over	25.9	29.5
All age groups	47.3	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

The pattern for the United States is characterized by increasing rates throughout the 16-59 age range. Whereas the Fort Apache Indians begin dropping out of the labor force in their thirties, the United States in general is characterized by increasing participation up until the sixties are reached. There is a particularly large difference between the Fort Apache labor force participation rates for people in their forties and fifties and the U. S. rates for these age groups.

Fort Apache labor force participation rates for women are lower than comparable U. S. rates, but the pattern for age groups is similar to that of the United States, as demonstrated in Table X. The greatest difference between female rates on the Fort Apache Reservation and the female rates for the United States is exhibited in the 16-19 age group and the 40-49 age group. Fort Apache women in the 16-19 age group with a rate half of the U. S. rate are less likely to be in the labor force as compared with the same age group of U. S. women. Young women on the Fort Apache Reservation do not enter the labor force to the same extent that U. S. women do. The same can be said for women in their forties. In the United States women tend to re-

TABLE X

FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Fort Apache	U. S.
16-19	15.9	37.4
20-29	42.5	49.2
30-39	27.3	45.2
40-49	20.6	52.2
50-59	37.5	55.9
60 and over	2.3	17.8
All age groups	25.6	41.5

Source: Manpower Report of the President, 1964, for U.S. rates.

enter the labor force in their forties. Fort Apache women do not appear to reenter until they reach their fifties. The age pattern of labor force participation rate for women can be summarized as indicating delayed entry into the labor force of young women and delayed reentry of mature women. Fort Apache labor force participation rates for older women are much lower than the comparable rates for the United States.

Labor force participation rates for men on the Fort Apache Reservation are below those for U. S. men as shown in Table XI, but the

TABLE XI

MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
FORT APACHE RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Fort Apache	U. S.
16-19	37.5	51.4
20-29	75.3	88.0
30-39	86.2	97.8
40-49	79.5	96.3
50-59	50.0	92.3
60 and over	52.6	44.2
All age groups	68.2	79.7

Source: Manpower Report of the President 1964, for U.S. rates.

differences are below those experienced in other Southwest Indian communities. Fort Apache male labor force participation rates are highest for men in the 30-39 year old age group. Rates for both the younger and older age group are lower. This pattern on the Fort Apache Reservation is similar to the pattern for the United States. One noticeable difference between the Fort Apache participation rate pattern and the U. S. pattern is the large difference between the Fort Apache male rate for men in their fifties and the comparable U. S. rate. The data suggest that Fort Apache males withdraw from the labor force at a relatively early age.

Reason for Not Entering the Labor Force

More than half of the Fort Apache population 16 years of age or over is not in the labor force. This group is defined as those not usually working and not looking for work. Individuals not in the labor force were asked why they did not look for work, and a number of possible reasons were suggested to the respondents. The reasons given for not seeking employment are presented in Table XII. It should be noted that respondents were permitted to give more than one reason for not seeking work.

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work available	15.2
Couldn't find work	10.0
Lacks necessary schooling, training, or experience	16.1
Employers think too young or too old	15.2
Personal handicap	7.1
Can't arrange for child care	13.7
Family responsibilities	19.0
In school or other training	9.5
Ill health or physical handicap	25.6
Other	13.7
Don't know	13.7

N = 211

* Does not sum to 100 percent due to multiple responses.

The most frequently mentioned reason was related to health and physical handicaps. About 25 percent of the people responding to the question stated that they did not look for employment because of ill health or a physical disability. Men and women giving this reason were of about equal number. Table XIII reflects the age groups of respondents not in the work force. Of the females responding, 88.9 percent were 40 years of age or older and 74.1 percent were 50 years of age or older. Of the men responding, 89.3 percent were 40 years of age or over and 67.9 percent were 50 years of age or older. Older Indians giving such a response may refer to ill health or physical disabilities reflecting inadequate diets over the years or to the physically demanding nature of work to be performed—they may consider the jobs too strenuous.

TABLE XIII

AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK DUE TO ILL HEALTH OR PHYSICAL DISABILITY

Age Group	Percent Females	Percent Males
16-19	0.0	3.6
20-29	3.7	3.6
30-39	7.4	3.6
40-49	14.8	21.4
50-59	18.5	35.7
60-69	48.2	21.4
70-79	3.7	7.1
80 and over	3.7	3.7
TOTAL	100.0	100.1*

N = 27 females; 28 males.

* Does not sum to 100 percent due to rounding.

Another important reason for not seeking employment is that people have family responsibilities or cannot arrange for child care. Of those not seeking work, 19 percent listed family responsibility as a reason for not doing so. The response indicates the lack of desire to leave the reservation to work. Women constituted all but two of the people giving this response, and most of these women are married. In addition to those responding that they did not seek employment because of family responsibility, 13.7 percent listed the inability to arrange for child care as a reason for not seeking employment. Furthermore, age is also an important reason for not seeking employment; of those not seeking employment, 15.2 percent listed this as a reason. As shown in Table XIV, almost all of these people were below 20 years of age or above 59 years of age. It should be noted that only 5 percent of the total population gave this reason for not seeking employment. Less than 3 percent of the people in the survey 60-69 years of age respondent that they thought they were too old. Less than 2 percent of those under 20 years of age responded that they were too young.

TABLE XIV
AGE DISTRIBUTION OF RESPONDENTS WHO REPLIED THAT THEY WERE TOO YOUNG OR TOO OLD FOR EMPLOYMENT

Age Group	Percent of Total Responses	Percent of Total Population in Age Group
16-19	34.3	2.0
20-29	0.0	0.0
30-39	3.1	0.2
40-49	0.0	0.0
50-59	0.0	0.0
60-69	46.9	2.7
70-79	15.6	0.9
80 and over	0.0	0.0
TOTAL	99.9*	4.8

N = 32
* Does not sum to 100 percent due to rounding.

People may withdraw from the labor market because they feel that the chances of finding a job are very small. This, of course, assumes that they were once attached to it. On the Fort Apache Reservation, 15.2 percent of those not seeking employment responded that the reason for not doing so was that they believed no work was available. This figure is considerably higher than those on other reservations in the survey. Even though employment opportunities are greater on the Fort Apache Reservation than on other reservations in the study, the number of jobs relative to the available labor force is small. This consideration is further reflected by the additional 10 percent of the respondents stating that they were not seeking work because they could not find work. Those not seeking work because they believed no work was available or because they could not find work suggests that they might be encouraged to enter the labor market if the job situation were more promising. To a large extent they represent the element of the population driven out of the labor market by the lack of economic opportunity.

Of the people not seeking employment, 16.1 percent listed the lack of necessary schooling, training, or experience as a contributing reason. The median education level of people giving this response was eight years as compared to a reservation median of nine years. It would appear that many people listing this reason do have enough education to be employed in the Fort Apache economy. Their failure to participate in the economy is partly a reflection of the lack of opportunity and partly an indication of the lack of information about those work opportunities that do exist. At any rate, many of the people listing this reason for not seeking work could probably be attracted into the labor market if employment opportunities improved. The population does not have the necessary education to compete successfully in a nonreservation labor market.

In summary, there are three important classes of reasons for not seeking employment. Poor health appears to be an important obstacle in the way of better manpower utilization. Whether it is real or imagined, poor health represents an important excuse for not seeking work. The lack of employment opportunities is also a significant factor contributing to the low labor force participation rate. Many people do not look for work, hence do not join in the labor force, because they believe no work is available.

EMPLOYMENT EXPERIENCE OF THOSE NOT USUALLY EMPLOYED

Those people who were not usually working in the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable responses were received from 224 residents of the Fort Apache Reservation. More than 90 percent of these people did not look for work during the prior year and therefore were not in the labor force. As shown in Table XV, 64.3 percent of those who were not employed during the year prior to the survey have never been employed. An additional 11.6 percent of those not usually working have not worked for five or more years. Thus, 75.9 percent of the people who were not usually working in the year prior to the survey have never worked or have not worked for five or more years. It is obvious that a large portion of the Fort Apache human resource has been isolated from the labor market over a long period of time. Their lack of participation in the labor market cannot be attributed to short-run factors.

TABLE XV

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	7.1
One to two years ago	8.5
Two to three years ago	4.5
Three to four years ago	2.2
Four to five years ago	1.8
Five or more years ago	11.6
Never worked	64.3
TOTAL	100.0

N = 224

Of the 127 respondents other than students who stated they have never worked, 77.2 percent are women. As expected, married women constituted the largest segment of those females who never worked.

In Table XVI, it is shown that never-married women constitute a surprisingly small portion of the Fort Apache female population that has never worked. Whereas 43 percent of all women who had worked in the year prior to the survey were never married, only 11.2 percent of the women who never worked were never married. A different

TABLE XVI

MARITAL STATUS OF THOSE WHO NEVER WORKED

(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	57.1	41.4
Widowed	24.5	17.2
Divorced	5.1	3.5
Separated	2.0	0.0
Never-married	11.2	37.9
TOTAL	99.9*	100.0

N = 98 females; 29 males.

* Does not sum to 100 percent due to rounding.

marital pattern is exhibited by men who never worked. Never-married men comprise a large portion of the male population that has never worked. While only 16.6 percent of the men who worked in the year prior to the survey were never married, 37.9 percent of the men that never worked were never married. The findings suggest that the absence of family responsibility may be an important explanation of male nonparticipation in the labor market.

Age appears to be related to never working. Females who never worked constitute an older group than all females in the sample as shown in Table XVII. For example, 65 percent of all females in the sample are below 40 years of age. Only 42 percent of the females who never worked are below 40 years of age. Whereas approximately 16 percent of the total female sample is above 59 years of age, 33.7 percent of the women who have never worked are above that age. The same age distribution pattern exists for males.

TABLE XVII

AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

Age Group	Percent Female	Percent Male
16-19	8.2	10.3
20-29	13.3	17.2
30-39	18.4	13.8
40-49	18.4	17.2
50-59	8.2	13.8
60-69	25.5	17.2
70 and over	8.2	10.3
TOTAL	100.2*	99.8*

N = 98 females; 29 males.

* Does not sum to 100 percent due to rounding.

The education level of those who have never worked is not very much different from the general education level of the Fort Apache Reservation. For the reservation as a whole, the median years of school completed is nine. The median education level of those who have never worked is eight years. The eight-year median education level characterizes both the males and the females who have never worked. The median education level of females who were working in the year prior to the survey is ten years. The median education level of males who were usually working in the year prior to the survey was nine years.

An additional 11.6 percent who were not usually employed in the year prior to the survey responded that they had worked at one time, but not for five years or more. Of these, 63.2 percent are men. All the women in this category are married, and only 12.5 percent of the men have never been married. Table XVIII reveals that of those women who have not been employed for five or more years, 92.9 are in the 20-39 age group. It would appear that the women who have not worked for five or more years are relatively young married women who have not worked because of family responsibilities. The age distribution of men is somewhat different. Of those that have not worked for five or more years, 37.5 percent are 60 years of age or over. It would appear that the males who have not worked for five or more years are older men who have withdrawn from the labor force for reasons other than family responsibilities.

TABLE XVIII

AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	4.2
20-29	42.9	8.3
30-39	50.0	16.7
40-49	0.0	12.5
50-59	0.0	20.8
60-69	7.1	16.7
70 and over	0.0	20.8
TOTAL	100.0	100.0

N = 14 females; 24 males.

Those respondents who were not usually employed during the year previous to the survey but had been employed at some time in the past were asked why they had left their last job. As indicated in Table XIX, health reasons were most frequently given. Personal factors are also important. Some of the factors were related to conditions in the job market. Completion of a seasonal job was listed as the reason for leaving the last employment by 15.2 percent of those responding. Temporary or nonseasonal job completion and unsatisfactory work conditions were also listed as reasons for leaving the last employment. The people in these three categories have left the labor market because of labor market conditions. Some of them could probably be attracted back into the labor market if employment conditions improved.

TABLE XIX

REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family or school	21.5
Health	25.3
Retirement or old age	5.1
Seasonal job completed	15.2
Slack work or business conditions	0.0
Temporary nonseasonal job completed	5.1
Unsatisfactory work conditions	7.6
Other	20.3
TOTAL	100.1*

N = 79

* Does not sum to 100 percent due to rounding.

UNEMPLOYMENT

As already noted, the first question on the Indian Manpower Resource Study questionnaire inquires: "What were you doing most of last year?" The question was formulated in this way in order that a respondent's attitude toward the labor market could be ascertained. In effect, the question reveals the respondent's perception of his involvement in the labor force. The survey staff recognized that a person working two or three months could conceptualize himself as being usually employed most of the year. Such a person may be only a part-time participant in the labor market. He may be responding that when he wanted to be employed, he was employed. The question was directed more toward labor force participation than it was toward employment. Other questions permit a detailed probe into the work experience of the respondents.

Respondents' activities during the past year permit an estimate of the level of unemployment. On the basis of the question, the overall unemployment rate is estimated at 7.3 percent over the year. This is roughly twice the national and state rates. More than three-quarters of all those classified as unemployed were men. The unemployed males were dispersed over all age groups. No pattern of unemployment rates by age group can be ascertained. One interesting characteristic of the unemployed was that 45 percent of the group had never been married. The educational characteristics of the unemployed do not differ greatly from the employed group.

The foregoing analysis suggests that unemployment is not a major problem on the Fort Apache Reservation, but this judgment may be overly hasty and incorrect. For the Fort Apache Reservation, unemployment rates calculated on the basis of the year, while technically correct, do not reflect the extent of underutilization. The concept of an unemployment rate based on the survey week as defined in this study may, in fact, be meaningless on the Fort Apache Reservation. Employment is primarily seasonal or irregular. People apparently enter and leave the labor force at frequent intervals. This behavior can be attributed to cultural factors as well as the working of the Fort Apache economy and labor market.

An indication of the instability of labor market participation is revealed by other questions in the questionnaire. For example, the question seeking the amount of work performed last year revealed that 301 of the respondents worked one month or more in the year previous to the survey. These in turn were asked about their activity during the month prior to the survey and their responses are reported in Table XX. As can be see, only 151 people replied that they worked most of the month prior to the survey. The unemployed for

TABLE XX

ACTIVITY OF THE PREVIOUS MONTH

Activity	Percent
Working (including farming)	50.5
With a job but not working	2.3
Looking for work	11.7
Keeping house	8.7
Going to school	18.1
Unable to work	5.7
Retired	0.0
Other	3.0
TOTAL	100.0

N = 299

the month previous to the survey was forty-two. When the period for determining labor market activity was shifted from one year to one month, the labor force went down by 26.9 percent and unemployment went up by 41 percent. This comparison is indicative of the volatile nature of tribal labor force participation. Labor force participation and unemployment vary over the year. A large number of people who regard themselves as being regular participants in the labor market apparently withdraw from time to time. These findings are consistent with other findings about the employment of the residents of the Fort Apache Reservation.

UNDEREMPLOYMENT

Employment on the Fort Apache Reservation is not likely to be year-round employment. As shown in Table XXI, only 44.2 percent responded that they worked year-round. The incidence of seasonal and irregular employment was high. As demonstrated in Table XXII, seasonal workers were most likely to be employed during the spring.

TABLE XXI

USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	44.2
Seasonal	28.9
Irregular	26.9
TOTAL	100.0

N = 301

TABLE XXII

DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed
Spring	39.0
Winter	13.6
Fall	27.1
Summer	20.3
TOTAL	100.0

N = 59

Spring employment reflects the nature of the tourist season as well as the relatively greater activities in logging, cattle herding, and related work.

When the respondents were asked how many months they worked in the year prior to the survey, 45.6 percent responded that they did no work at all (Table XXIII). Only 18.7 percent of the respondents worked ten months or more. The low level of employment for ten to twelve months is indicative of the low level utilization and low labor force participation.

Only 18.7 percent of the population worked ten to twelve months. Another 18.8 percent worked less than four months. It would appear that the people who respond that they are usually employed, regard employment of four to six months as constituting the normal work year. Other evidence suggests that when the Indians are not employed, they drop out of the labor force; thus, they are not counted as being unemployed.

The residents of the Fort Apache Reservation in the 16-19 year old group comprise a very small percentage of those that worked more than three months. Table XXIV demonstrates that most of the people in the younger group work three months or less. Fifty-four percent of those that work ten to twelve months are between the ages of 30 and 49. Table XXIV also reveals the importance of the 20-39 age group. The young and the old do not constitute a major portion of those employed more than three months.

TABLE XXIII

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

Months Worked	Percent of Population	Percent Female	Percent Male
0	45.6	65.4	26.4
1 - 3	18.8	16.9	20.7
4 - 6	10.0	6.3	13.6
7 - 9	6.9	3.7	10.0
10 - 12	18.7	7.7	29.3
TOTAL	100.0	100.0	100.0

N = 272 females; 280 males.

The number of months worked is related to marital status. More than 80 percent of all married females work three months or less.

TABLE XXIV
AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED
(Percent)

Age Group	Months Worked 0	1-3	4-6	7-9	10-12
16-19	14.7	32.7	3.6	5.3	1.0
20-29	19.4	42.3	52.7	26.3	32.0
30-39	16.7	12.5	21.8	28.9	34.0
40-49	15.5	2.9	9.1	13.2	20.1
50-59	8.7	5.8	3.6	21.1	5.8
60-69	18.3	3.8	9.1	5.3	6.8
70 and over	6.7	0.0	0.0	0.0	0.0
TOTAL	100.0	100.0	99.9*	100.1*	99.7*
Number in each group	252	104	55	38	103

* Does not sum to 100 percent due to rounding.

Table XXV reveals that only a small portion of married women worked ten to twelve months. Of the married males in the survey, 46 percent worked ten to twelve months, which means a rather large number of married males worked less than ten months. As indicated in Table XXVI, neither never-married males or females are likely to be employed for more than three months.

TABLE XXV
DISTRIBUTION OF MONTHS WORKED FOR MARRIED FORT APACHE

Months Worked	Percent Female	Percent Male
0	72.4	18.6
1 - 3	10.3	9.9
4 - 6	7.6	14.3
7 - 9	1.4	11.2
10 - 12	8.3	46.0
TOTAL	100.0	100.0

N = 145 females; 161 males.

The situation on the Fort Apache Reservation reflects income sharing. Even though most married females work three months or less,

TABLE XXVI
DISTRIBUTION OF MONTHS WORKED FOR
NEVER-MARRIED FORT APACHE

Months Worked	Percent Female	Percent Male
0	42.1	32.6
1 - 3	36.1	42.7
4 - 6	7.2	11.2
7 - 9	4.8	7.9
10 - 12	9.6	5.6
TOTAL	99.8*	100.0

N = 83 females; 89 males.
* Does not sum to 100 percent due to rounding.

Table XXVII shows that almost all of the males and more than half of the females that worked ten to twelve months are married. Females in the never-married group tend to be more successful than males in obtaining relatively stable work. This may reflect the nature of most government jobs, which require clerical skills. Male opportunities in government work appear to be more limited.

TABLE XXVII
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	57.1	90.2
Widowed	0.0	0.0
Divorced	4.8	1.2
Separated	0.0	1.2
Never-married	38.1	6.1
Info. not available	0.0	1.2
TOTAL	100.0	99.9*

N = 103
* Does not sum to 100 percent due to rounding.

HOURS WORKED

When the residents of the Fort Apache Reservation are employed, they generally work 35 hours per week or more. Table XXVIII illustrates that only 10 percent of the employed usually work less than

TABLE XXVIII
HOURS PER WEEK USUALLY WORKED BY EMPLOYED FORT APACHE

Hours	Percent of Total
1 - 14	3.3
15 - 29	1.9
30 - 34	5.3
35 - 39	5.0
40	65.0
41 - 48	12.0
49 - 59	2.0
60 or more	4.7
TOTAL	100.0

N = 301

35 hours. Nearly 66 percent work the standard 40 hours per week. Another 19 percent are required to work more than the standard workweek. Nearly 5 percent revealed that their jobs required 60 or more hours per week. As shown in Table XXIX, 40.6 percent of those

TABLE XXIX
REASONS FOR WORKING 35 HOURS OR LESS

Reason	Percent of Those Working 35 Hours or Less
Slack work	0.0
Material shortage	6.3
Plant or machine repair	3.1
Could only find part-time work	15.6
Labor dispute	0.0
Bad weather	3.1
Own illness	0.0
Too busy with housework, school, business, personal, etc.	15.6
Did not want full-time work	3.1
Full time work under 35 hours	40.6
Other reason	12.5
TOTAL	99.9*

N = 32
* Does not sum to 100 percent due to rounding.

who worked less than 35 hours per week did so because their full-time work is less than 35 hours. Another 15.6 percent are not working full time because of other commitments such as housework or school. Still another 15.6 percent could only find part-time employment. The indication is that many individuals would work more hours if the work were available. The responses of the majority working fewer than 35 hours per week indicates these hours are not voluntarily sought.

Looking for Work. Of those who did no work at all during the year previous to the survey, 12.8 percent looked for employment at some time. Looking for work, however, may not have been their primary activity during the year. Included in the group looking for work, for example, could be housewives whose primary activity was keeping house, but who looked for a job at some time. Table XXX shows that 3.6 percent of those that looked for work sought part-time work only; however, 7.6 percent desire full-time work. Another 1.6 percent would have been satisfied with either. Generally, full-time work is desired over part-time, but the willingness to accept either indicates a lack of on-reservation opportunities.

TABLE XXX

PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK

(By type of work)

Category	Percent
Full-time	7.6
Part-time	3.6
Both	1.6

N = 249

Those looking for work on the Fort Apache Reservation relied heavily on the Arizona State Employment Service for job information as revealed in Table XXXI. The Arizona State Employment Service maintains a full-time office in Whiteriver and it is staffed by a well known resident of the reservation. Friends or relatives also constituted an important source of information about the job market. Want ads were not an important source of information to the people looking for work. Distance away from the reservation of private employment agencies reflects a lack of use of such facilities. Indians do seek work from employers directly.

Those looking for work were asked why they were unsuccessful in their efforts. Table XXXII indicates that the most frequently mentioned reason was the lack of of availability of jobs. More than half of those looking for work listed this as a reason. The lack of education or training is also an important reason as is the transportation problem. Transportation is important on the Fort Apache Reservation because employment is located in communities such as Whiteriver and McNary, but the population is dispersed over the large reservation.

TABLE XXXI
SOURCES CONTACTED ABOUT WORK INFORMATION BY THOSE LOOKING FOR WORK IN PREVIOUS YEAR

Source Contacted	Percent
Bureau of Indian Affairs	21.9
Arizona State Employment Service	62.5
Private employment service	18.8
Employer directly	21.9
Friends or relatives	37.5
Placed or answered ads	9.4
Other	12.5

N = 59

TABLE XXXII
REASONS FOR DIFFICULTY IN FINDING A JOB BY THOSE NOT WORKING BUT LOOKING FOR WORK

Reason	Percent*
No jobs available	53.1
Age—too old, too young	6.3
Lack necessary skill or experience	15.6
Lack of necessary education or training	31.2
Health problems, physical disability	15.6
Personal problems--police record, bad debts	15.6
Transportation	25.0

N = 52
* Does not sum to 100 percent because of multipl[illegible]onses.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

The distribution of White Mountain Apaches into standard industry classes and in turn into specific occupational categories is based on answers to a series of questions. Respondents were asked to furnish information revealing the type and nature of work performed on all jobs during the past five years. In addition, they were asked to identify their employer as well as the type and nature of his business. Information on tasks performed previous to the past five years was not requested since it was considered that any skills required to do the work would largely have to be relearned prior to performing again in the same capacity.

INDUSTRY EXPERIENCES

On the basis of 350 usable responses, it was found that the single most important industry providing work experience to the White Mountain Apache was government. Manufacturing and services followed government in importance. Table XXXIII provides the basis for assigning relative importance to the standard industrial classifications.

TABLE XXXIII

FORT APACHE EMPLOYMENT BY INDUSTRY CLASS

(Number and percent)

Code	Industry	Number		Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	19		
07	Agricultural services and hunting and trapping	2		
08	Forestry	9		
	Subtotal		30	8.6
	CONTRACT CONSTRUCTION			
15	Building construction—general contractor	4		
16	Construction other than building—general contractor	1		
17	Construction—special trade contractors	1		
	Subtotal		6	1.7
	MANUFACTURING			
23	Apparel and other finished products made from fabrics and similar materials	1		
24	Lumber and wood products, except furniture	69		
	Subtotal		70	20.0
	TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES			
41	Local and suburban transit and interurban passenger transportation	1		
	Subtotal		1	0.3

TABLE XXXIII (continued)

Code	Industry	Number		Percent of Total
	WHOLESALE AND RETAIL TRADE			
50	Wholesale trade	1		
53	Retail trade—general merchandise	14		
55	Automotive dealers and gasoline service stations	4		
58	Eating and drinking places	3		
	Subtotal		22	6.3
	SERVICES			
70	Hotels, rooming houses, camps, and other lodging places	20		
72	Personal services	1		
73	Miscellaneous business services	2		
75	Auto repair, service and garages	2		
76	Miscellaneous repair services	1		
79	Amusement and recreation services, except motion pictures	4		
80	Medical and other health services	2		
82	Educational services	3		
86	Nonprofit membership organizations	6		
88	Private households	11		
	Subtotal		52	14.9
	GOVERNMENT			
91	Federal government	132		
92	State government	2		
93	Local government	35		
	Subtotal		169	48.3
TOTAL			350	100.1*

N = 350

* Does not sum to 100 percent due to rounding.

Slightly less than one-half (48.3 percent) of Apache work experience over the past five years has been provided by three levels of government. The federal government is by far the most important source in the category, providing about 77 percent of all experiences of the classification. State government is relatively unimportant in providing jobs to the White Mountain Apache. Local government follows federal in importance, and it provides most of the remaining experiences of the population in public employment. Local government employment jobs are provided solely by the tribe itself.

Manufacturing follows government in industry experience importance. Twenty percent of industry experience has been provided largely by the manufacturing of lumber and wood products. Furniture making is not included in the classification. The experiences revealed in lumber and wood production reflect the location of rich forests on tribally owned land. There has been little work experience for the population in manufacturing outside of lumber in the past five years.

Services follow government and manufacturing in industry experience importance. Nearly 15 percent of the population have experience as domestics, or in amusements and recreation, and also in hotels and lodging places. Hotels and lodging services are important on the Fort Apache Reservation because of tribal efforts in developing successful recreational facilities.

Domestic services provided to private households is also an important source of experience for a significant number of workers. The remaining categories under the general services label are individually of lesser importance than the two mentioned.

Nearly 9 percent of all work experience is in agriculture, forestry, and fisheries. The natural resources of the reservation make such endeavors almost obvious. However, total Indian experiences in such industries are somewhat limited in that tasks are largely confined to fire crews and forest conservation. Game wardens work for the tribe to police fishing and hunting permits related to the Indian efforts in developing recreational facilities.

Wholesale and retail trade accounts for 6.3 percent of tribal work experiences. Trading posts provide the largest share of such experiences followed by restaurants and gasoline service stations.

The contract construction and transportation industries provide few of the population's work experiences. Slightly less than 2 percent have worked in the construction industry either currently or in the past five years.

Much less than 1 percent of respondents revealed experiences in the transportation, communications, electric, gas, and sanitary services category. These industries have not provided much work experience for Fort Apache Indians.

There are many occupations within the industry classes in which the Indians have work experience. The particular occupations identified provide further insights into the extent of work experiences of the past, which may be of future use.

OCCUPATIONAL EXPERIENCES

The relatively recent occupational experiences of the population are revealed in Table XXXIV. Service occupations are more prevalent among the White Mountain Apache Tribesmen, and farm and structural work occupations follow in importance. The remaining categories of Table XXXIV are also important in terms of occupational experiences for the tribal members.

TABLE XXXIV
FORT APACHE EMPLOYMENT BY OCCUPATIONAL TITLE
(Number and percent)

Code	Description	Number		Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
04	Occupations in life sciences	2		
07	Occupations in medicine and health	3		
09	Occupations in education	4		
16	Occupations in administrative specialization	6		
18	Managers and officials, not elsewhere classified	6		
19	Miscellaneous professional, technical, and managerial occupations	8		
	Subtotal		29	8.5
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	9		
21	Computing and account—recording occupations	4		
23	Information and message distribution	1		
24	Miscellaneous clerical occupations	1		
28	Salesmen, salespersons—commodities	1		
29	Merchandising occupations, except salesmen	9		
	Subtotal		25	7.3
	SERVICE OCCUPATIONS			
30	Domestic service occupations	25		
31	Food and beverage preparation and service	16		
32	Lodging and related service occupations	5		
35	Miscellaneous personal services	19		

TABLE XXXIV (continued)

Code	Description	Number		Percent of Total
36	Apparel and furniture services	2		
37	Protective service occupations	6		
38	Building and related service occupations	28		
	Subtotal		101	29.5
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
40	Plant farming occupations	36		
41	Animal farming occupations	3		
42	Miscellaneous farming and related occupations	7		
43	Fishery and related occupations	1		
44	Forestry occupations	7		
	Subtotal		54	15.8
	PROCESSING OCCUPATIONS			
52	Processing of food, tobacco, and related products	1		
	Subtotal		1	0.3
	MACHINE TRADE OCCUPATIONS			
61	Metal working occupations, not elsewhere classified	1		
66	Wood machining operations	23		
68	Textile occupations	1		
69	Machine trade occupations, not elsewhere classified	1		
	Subtotal		26	7.6
	BENCH WORK OCCUPATIONS			
70	Occupations in fabrication, assembly, and repair of metal products, not elsewhere classified	1		
74	Painting, decorating, and related occupations	1		
78	Occupations in fabrication and repair of textiles, leather and related products	2		
	Subtotal		4	1.2
	STRUCTURAL WORK OCCUPATIONS			
81	Welders, flame cutters and related occupations	3		
84	Painting, plastering, waterproofing, cementing, and related occupations	9		
85	Excavating, grading, paving, and related occupations	16		
86	Construction occupations, not elsewhere classified	21		
89	Structural work occupations, not elsewhere classified	3		
	Subtotal		52	15.2

TABLE XXXIV (continued)

Code	Description	Number		Percent of Total
	MISCELLANEOUS OCCCUPATIONS			
91	Transportation occupations, not elsewhere classified	15		
92	Packaging and materials handling occupations	13		
94	Occupations in logging	22		
	Subtotal		50	14.6
TOTAL			342	100.0

N = 342

Services account for 29.5 percent of all occupational experiences. A wide range of occupations fall within the greater services category, but most of them are best described as low-level type of tasks. The ones mentioned most frequently were domestic gardeners, hospital attendants, porters, and janitors. In addition many have relatively recent experiences as cooks, bartenders, and nursemaids. It is obvious that most of the service experiences relate to the tourist and recreational industry developing on and near the reservation.

Nearly 16 percent revealed experience in occupations relating to farming, fishery, and forestry. By far the most important occupational experience of all in the category was that of industrial groundskeeper. This group of workers have responsibilities generally to maintain recreational sites. General farm hands are not plentiful among the Fort Apache Indians. Very few continue to engage in such work. A few did reveal that they had experience in such occupations as irrigator, agricultural sprayer, reptile farmer, and tree pruner.

Structural work occupations were sources of extensive work (15.2 percent) experience for the tribe. Carpentry, pipe fitting, and roustabouts are prevalent in the construction occupations. In addition, excavating, grading, and paving of roads are areas of significant experience among the population. A number of the reservation Indians also have experience in welding and painting.

Occupational experiences in miscellaneous occupations were revealed by nearly 15 percent of respondents. Predominant among these were service station attendants, loggers, and loaders in both logging and paper operations.

Table XXXIV indicates that approximately 8 percent revealed experiences in professional, technical, and managerial occupations.

Occupations reported range from elementary school teacher and fire assistants to recreation leaders; most of the experiences in the category were obtained on the reservation.

Machine trade occupations are generally in wood working operations. Nearly all the work experiences in this category relate to sawmill operations on the reservation. Work histories in this category indicate that nearly 8 percent of the population has worked at such tasks within the last five years.

Clerical and sales occupational experience has been indicated by 7 percent. Sales clerks in general stores and office related work such as secretaries, typists, and clerk bookkeepers predominate. The relatively large number of stores in the main Indian towns where most of the local and federal government functions are carried out account for most clerical and sales-related experiences. Some attain levels of work above the routine tasks associated with office chores; that is, some administrative responsibilities were revealed.

Bench work and processing occupations combined account for about 1 percent of current and past work experiences. Included in the category are such skills as sewing machine operators and seamstresses.

In summary, it is obvious from Table XXXIII and XXXIV that the Fort Apache Reservation work experiences are concentrated into a few predominant industries. Occupational experiences also reflect the predominance of industries such as those in services, government, and lumbering that prosper on and near tribal land. Agricultural work has not predominated the work history of the respondents over the past five years, which reflects the developing nature of the reservation. The range of work histories reflects the importance of tribal endeavors in tourism and recreation as well as the efforts of the Bureau of Indian Affairs and Indian Health Service to provide services.

Location of Present Job. The importance of industry diversification on the reservation is revealed by responses to the question: "Is your present (or usual) job located on your reservation?" Ninety-two percent of Apache work is located on the reservation. Only 8 percent traveled off the reservation to perform their usual tasks. Such response lends support to the contention that White Mountain Apaches are able to remain on tribal land because of the range of available opportunities for at least some family members permitting income sharing. Others withdraw from the labor force in order to stay on the Fort Apache reservation.

Source of Learning Present Job. The location and types of industries and occupations have been identified. In addition, it has been learned that the median years of education completed by both males and females are nine. Those usually working fare better. Most of the jobs performed on and off the reservation were learned by employer instruction on the job (Table XXXV). Approximately 75 percent of all occupations reported were taught by employers. The nature of occupations reveals that most work experiences over the past five years have been with a limited number of employers and the tasks performed have usually been learned on the job. Most tasks were in the common labor category with low-level labor force requirements.

TABLE XXXV

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	74.7
Government training program	9.1
Armed services	0.7
Formal schooling	6.1
Other	9.5
TOTAL	100.1*

N = 296

* Does not sum to 100 percent due to rounding.

Approximately 9 percent identified government training programs as sources of learning their usual jobs. Training such as heavy equipment operation has been provided. Relocation of Indians to other areas for training has been undertaken by some. Nearly 1 percent identified training in the Armed Forces as the source of learning their usual jobs. Military experiences, however, were not importantly carried over into civilian tasks. It is possible that higher-skill jobs could be performed, if available. The lack of jobs is reflected in the lack of carry-over from the military to civilian endeavors.

Self-taught skills and instruction from friends and relatives were identified by 9 percent as the methods of learning their jobs. Much of this is due to the undertakings of the tribe itself in lumbering and recreation. The job as the source of learning tasks is highly valuable.

Six percent revealed that their formal training was the most important source of learning present jobs. Most formal training that was carried over into employment reflects experiences in secretarial types of jobs and those related to teaching school and social welfare. Formal training to perform such tasks is a prerequisite to employment.

Three percent of respondents hold union cards. Organization of tribal Indians into unions is not great. This both reflects the location of work performed and heavy concentration into governmental work. It will be recalled that most of the workers work on the reservation and in tribally or federally administered operations. Little union organizational attention has been directed toward such workers in the past. Little work is performed off the reservation where the Indian would be geographically accessible to the union membership.

Very little if any training for occupations has come from union-administered sources. Most training is performed by employers, making union training largely unnecessary. Apache workers are generally isolated and insulated from labor force competition. This makes union membership less necessary and desirable than would be the case if Indians competed for scarce jobs on the open labor market.

Skills Training Without Subsequent Job Experience. Some of the tribesmen have undertaken skills training, but have been unsuccessful in finding work that would enable them to utilize those skills; 12 percent of 545 respondents stated this was their case. However, specification of the training received did not indicate possession or highly marketable skills. Most merely revealed that they had worked in a particular job in the past and for some reason could no longer obtain work at the same job. For example, some listed such training as sawmill worker, cook, and hospital aid as skills they possessed but could not utilize on the job. A few, however, do have knowledge of skills generally in short supply in some areas. Such skills as those of plumber, electrician, and nurse were cited. The lack of desire to move to off-reservation areas to obtain work where such skills may be utilized renders these persons increasingly incapable of maintaining their competencies. The lack of use will bring on a deterioration of abilities. Incentives to move are necessary since it is obvious the reservation is not developing rapidly enough to absorb them in jobs for which they are trained. Failure to move where jobs are also raises the societal cost of training such persons since no benefits are likely to accrue to the general public investing in their training. Yet, benefits are realized by the tribe if individuals remain on the reservation and ultimately find work.

SOURCES OF INCOME

Accessibility to income sources on the part of Fort Apache Reservation residents may influence decisions to participate in the labor force. It is important to review both earned and unearned income in order to learn of the economic ability of Indians to remain on tribal property. In this section, income data are analyzed in terms of amounts received by individuals and families and then by age, sex, and educational attainment level. Income received by individuals relative to family income reveals the extent of income sharing, which permits the population to remain on the reservation as opposed to being forced off for economic reasons. It should be noted that responses to the income questions are based on recall without the aid of records.

EARNED AND UNEARNED INCOME

Respondents were asked several questions dealing with the extent and source of earned and unearned individual and family income. The answers provided are revealed partially in Table XXXVI. Refinement of the data will be dealt with in detail in succeeding sections.

TABLE XXXVI
INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0 - 499	49.2	37.1	35.0
500 - 999	17.3	15.7	14.2
1,000 - 1,999	11.6	12.2	13.0
2,000 - 2,999	6.6	9.0	10.2
3,000 - 4,999	7.0	10.9	11.4
5,000 - 9,999	7.6	11.8	12.6
10,000 - and over	0.8	3.2	3.7
TOTAL	100.1*	99.9*	100.1*

N = 502 individual; 466 unadjusted family; 246 adjusted family.
* Does not sum to 100 percent due to rounding.

Family Income. In 1964, the Office of Economic Opportunity estimated that 1.5 million families received incomes of under $1,000 annually, before taxes. Three million families received between $1,000 and 1,999, and 4.6 million received annual incomes between $2,000 and 3,130.[3] On the Fort Apache Reservation nearly one-half (49.2 percent) of all individuals responded that their incomes ranged between $0-499 during 1967. Another 17.3 percent received between $500 and 999. Approximately 85 percent received incomes totaling less than $3,000 per year. Median income received by all individuals is between $500 and 999 with the likelihood that it is closer to $500 than 999.

Less than 1 percent receive $10,000 per year or more, but nearly 8 percent reported income between $5,000 and 9,999. Another 7 percent were in the $3,000-4,999 category.

Family income is presented in two categories in Table XXXVI. The first deals with unadjusted data, whereas the second is adjusted. The adjusted column presents family income after deleting responses from several members of the same family. The unadjusted column is biased in that several members from large families were more likely to fall within the sample than was the case with small families. Deletion of multiple family members from the sample in calculating family income corrects the bias toward larger families.

The unadjusted data reveal that over one-half (52.8 percent) of Fort Apache families receive less than $1,000 per year. On an adjusted basis, the percentage falls slightly to 49 percent. The adjusted categories indicate that smaller families fare better economically than large ones. However, it should be noted that White Mountain Apaches have large families with a median of six children per family. In this regard, the unadjusted data appear to provide a better indication of reservation family welfare. The difference in the upper income levels is slight. Three percent of families receive $10,000 per year or more on an unadjusted basis, whereas it is closer to 4 percent when adjustments are made. The income category, $5,000-9,999, reveals a 1 percent difference between the two methods of calculation. The $3,000-4,999 category is roughly the same.

It is obvious that there is substantial income sharing among the relatively stable Fort Apache family members as family income is higher in every category than individual income considered separately. On-reservation stability would not be possible without significant income sharing, given the nature and extent of seasonal employment.

Non-Money Income. The Fort Apache Reservation has a climate which could lend itself to non-money supplements to actual dollars received. In addition, barter may be prevalent on the reservation as a source of livelihood not generally considered by the Indian as income. The question was asked: "Did you receive any non-money income last year?" The questionnaire was structured so as to provide several possible categories of response. The individuals questioned were also permitted to indicate sources other than those provided. Table XXXVII shows the extent and sources of individually generated non-money income.

TABLE XXXVII

NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	1.1
Homemade clothing	2.7
Goods exchanged for other goods	1.1
Other barter sources	2.0

N = 548

Some non-money income is earned on the Fort Apache Reservation; however, it is not extensive, given the low level of family income reported. Roughly 1 percent supplement income by barter. The common impression that Indians generally live predominately in a semi-barter society does not appear to be the case with White Mountain Apaches. Very few attempt to raise their own gardens for consumption purposes; only 1 percent revealed such activity. Two percent did have other sources of non-money income that were generally obtained by hunting and fishing. Nearly 3 percent make their own clothing as a means of supplementing low incomes.

TABLE XXXVIII

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	94.5
1 - 499	4.7
500 - 999	0.6
1,000 or over	0.2
TOTAL	100.0

N = 548

Success in supplementing income was not at all good. Table XXXVIII provides estimates on the monetary equivalent of non-money income sources. Nearly 95 percent made no effort to generate income by barter or on a do-it-yourself basis. Nearly 5 percent estimated their efforts resulted in from $1-499 over the course of the year. Only about 1 percent placed a dollar value on their efforts from $500-999 and less than 1 percent felt they had earned over $1,000.

In summary, it is obvious that Fort Apache residents economically are relatively worse off than American families in general. Median family income for the nation as a whole was $7,436 in 1966.[4] White Mountain Apache families had only attained a median of approximately $1,000 per year by the close of 1967. The median family size of Indians over which the smaller income must be spread is larger.

Sources of Individual Income

Sources of individual income provide additional insights into the activities of White Mountain Apaches. Incentives to work are affected not only by the extent of income sharing within families, but also by the accessibility of unearned income sources. The desire of the reservation population to refrain from relocating in either adjacent or distant areas is closely related to the ability to obtain income from various types of transfer payments. The question was asked: "What were the sources of income received by you in the last twelve months?" There were seventeen separate categories of possible responses on a yes or no basis. Usable replies numbered 548. Table XXXIX provides the reported sources.

Earnings from a trade is the single most important income category with 37 percent identifying the source. The category includes income from such skills as vocational counselor, elementary teacher, and agricultural superintendent. In addition, unskilled work was considered in the same category; hospital attendants and janitors are representative of some of the income sources. Hourly paid and salaried employment were both treated as earnings from a skill. The diverse types of work available on the reservation account for the importance of the category.

Transfer payments of several types are important for White Mountain Apaches; 59.4 percent receive some assistance. Churches provide significant funds to Indians; a good portion is earmarked for clothing. The unearned income elements include gifts from children,

TABLE XXXIX

SOURCES OF INDIVIDUAL INCOME

Source	Percent*
Gifts from children, relatives, or churches	17.2
Sales of handicrafts	6.2
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	13.0
Earnings from a farm, ranch, or other business	2.6
Earnings from a trade	36.8
Pensions	1.8
Assistance payments from Bureau of Indian Affairs	12.3
Assistance payments from other public or private sources	20.1
Interest or dividends on personal loans and investments	3.3
Income from royalties, leases, timber sales, annuities	0.9
Judgment or settlement funds	0.6
Sale of property	12.1
Veterans payments	3.5
Social Security	8.0
Unemployment insurance	5.3
None	12.6
Other	2.0

N = 548

* Does not sum to 100 percent because of multiple income sources.

relatives, churches, pensions, assistance from the BIA or other sources, and Social Security. Welfare from public and private groups provide income for 20 percent of the population. Gifts from children, churches, or relatives were identified by 17 percent. It is obvious that the ability of the population to stay on Indian land depends upon an extensive welfare system. This is the case despite the relatively wide range of employment opportunities on the reservation. Earned income alone would not permit the population to remain relatively immobile. The low-income levels admitted by respondents reveal the necessity for a variety of unearned sources.

The sale of handicrafts reflects the tribe's efforts to develop a tourism and recreation trade. Six percent are engaged in such activities. These are largely tribal-owned outlets.

Approximately 13 percent receive income from self-employment. Income from investments is also available to some; 3.3 percent responded that interest or dividends on personal loans and investments was received. Sale of property provides income for 12 percent of the population.

Many of the firms on the reservation provide work on a seasonal basis. This is partially reflected in the drawing of unemployment insurance during the past year by 5 percent of the population.

The necessity for income sharing among the people is apparent since 13 percent responded that no income was received from any source during the past year. It is expected that the burden for providing necessities falls upon all members of a family and that each member will participate in the labor force to the extent that opportunities for work are thought available. Responsibility for individuals of working-force age without a single source of income falls upon many for survival.

In short, the Fort Apache Reservation can be described as dependent upon welfare in two respects. The one is a widespread dependence on transfer payments from various sources. The other is a welfare system based on internal income sharing. Regardless of the amount of annual income received and irrespective of the source, it is shared. Only by sharing could the population remain on tribal land when so many work only seasonally or not at all. Even so, the only alternative is to enter the unsheltered labor market to compete for scarce jobs.

A high proportion of people sixteen years of age or over have income. Only 12.1 percent reported that they had no individual sources of income. Women were less likely to have individual income than men. While 8.2 percent of the men reported no income, 19.5 percent of the women had no income. Most people had access to more than one source of individual income. On the average, women had 1.3 income sources. The average number of income sources for men was 1.6, which is slightly higher than that for women. Most individuals have some source of income and many have more than one source.

THOSE WITH NO INCOME

Of the seventy-six residents of the Fort Apache Reservation that had no income during the year prior to the survey, fifty-three were women and twenty-three were men. There are three major explanations for these particular women having no income. It would appear that many of them had family responsibilities; 71.7 percent of the women who had no income listed keeping house as their primary activity during the year prior to the survey. Another 30.2 percent of women with no income reported that they were unable to work, while 17.3 percent reported that they were in school for most of the year prior to the survey. A large percentage of the men (39.1) who were without income in the year prior to the survey were unable to work. An additional 21.7 percent reported that they were enrolled in school. These characteristics of those without income are generally what would be expected for that group.

The age distribution of those females reporting no income is reported in Table XL along with the age distribution for all Fort Apache women. The age distributions are not very different. It would appear that the women with no income tend to be younger than the population in general. This fact is indicated by the relatively high percentage of women with no income in the 16-19 age group.

TABLE XL

AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	20.8	16.2
20-29	30.2	29.4
30-39	20.8	20.2
40-49	11.3	12.5
50-59	1.9	5.9
60 and over	15.1	15.8
TOTAL	100.1*	100.0

N = 53

* Does not sum to 100 percent due to rounding.

The age distribution of the Fort Apache males with no income is presented in Table XLI along with the age distribution of all Fort Apache males. The most notable difference in the two distributions presented in Table XLI is the high percentage of males with no income that are in the 16-19 age group. Note also that the percentage of males with no income is low for the 30-49 age group.

TABLE XLI

AGE DISTRIBUTION OF MALES WITH NO INCOME

Age Group	Percent of Males with No Income	Percent of All Males in Age Group
16-19	26.1	11.4
20-29	26.1	30.4
30-39	8.7	20.7
40-49	8.7	13.9
50-59	13.0	10.0
60 and over	17.4	13.6
TOTAL	100.0	100.0

N = 23

Earnings from a Trade

Earnings from a trade is the most frequently mentioned source of income for the Fort Apache Indian. This was the most frequently mentioned source by men; more than 50 percent of the men reported income from a trade. While income from a trade was not the most frequently mentioned source of income for women, 20.2 percent of women reported such income. It would appear that women are very much less likely to receive income from a trade.

The age distribution of those receiving income from a trade is presented in Table XLII. This table shows that most of the people

TABLE XLII

DISTRIBUTION OF EARNINGS FROM A TRADE

(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	14.6	6.2
20-29	45.5	35.6
30-39	21.8	28.1
40-49	9.1	15.1
50-59	7.3	8.2
60 and over	1.8	6.9
TOTAL	100.1*	100.1*

N = 55 females; 146 males.

* Does not sum to 100 percent due to rounding.

receiving this type of income are in the 20-49 age group. In percentage terms, female teen-agers fare better than males. The 20-29 age group for both sexes accounts for the largest percentage of those who receive income from a trade. As the residents of the Fort Apache Reservation get older their access to this source of income diminishes.

SELF-EMPLOYMENT AND OWNERSHIP INCOME

The respondents were asked if they had any income from a self-employed activity and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietory interest in a business and derive income from that business, but take no part in the operation of the business. It is not clear whether interviewers were able to make the distinction clear to the respondent although they were instructed to make an attempt at clarifying the distinction. The pattern of response to the question seems to suggest that the distinction was made clear. Income from ownership was reported by sixteen Fort Apache residents, and income from self-employment was reported by seventy-

TABLE XLIII

SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP

(By sex and age)

Age Group	Percent of Males with Earnings from Ownership	Percent of Males with Self-employment Income	Percent of Females with Earnings from Ownership	Percent of Females with Self-employment Income
16-19	8.3	6.7	0.0	19.2
20-29	16.7	42.2	0.0	46.2
30-39	16.7	24.4	0.0	26.9
40-49	41.7	8.9	100.0	7.7
50-59	8.3	15.6	0.0	0.0
60-69	0.0	2.2	0.0	0.0
70 and over	8.3	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0

N = males: 14 ownership, 45 self-employment; females; 2 ownership; 26 self-employment.

one people. Of those with income from ownership, only two were women. As shown in Table XLIII, income from ownership is spread over all age groups, but the 40-49 age group constitutes the largest percentage of people with income from this source.

Of those with self-employed income, forty-five were men and twenty-six were women. As shown in Table XLIII, this income source is dominated by younger people; this is true for both men and women. It would appear that income from ownership accrues to an older group than does self-employment income.

INCOME FROM HANDICRAFTS

Handicrafts are not an important source of income on the Fort Apache Reservation. Only 6.2 percent of the respondents reported income from this source. Of the thirty-four people reporting income from this source, twenty-six were women. While handicraft income is usually associated with older people, this is not the case on the Fort Apache Reservation. Those people with income from this source were spread over all groups. The age distribution of those with income from handicrafts is similar to the age distribution of those with income from a trade.

TABLE XLIV

DISTRIBUTION OF INCOME FROM BIA ASSISTANCE

(By sex and age)

Age Group	Percent Females	Percent Males
16-19	20.0	9.7
20-29	22.9	25.8
30-39	17.1	19.4
40-49	17.1	16.1
50-59	5.7	19.4
60-69	11.4	9.7
70 and over	5.7	0.0
TOTAL	99.9*	100.1*

N = 35 females; 31 males.

* Does not sum to 100 percent due to rounding.

ASSISTANCE PAYMENTS

Assistance payments are one of the major sources of income on the Fort Apache Reservation. The questionnaire permitted the respondent to list assistance payments as being either from the BIA or from other public or private sources. Of the sixty-six people that received assistance from the BIA, thirty-five were women. The importance of assistance to women is well known because of the fact that payments are often made in order that children can be supported. As indicated by Table XLIV and XLV, assistance payments are made to women of all ages.

TABLE XLV
DISTRIBUTION OF INCOME FROM PUBLIC
AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	19.7	14.0
20-29	18.2	25.6
30-39	19.7	18.6
40-49	13.6	11.6
50-59	6.1	11.6
60-69	18.2	11.6
70 and over	4.6	7.0
TOTAL	100.1*	100.0

N = 66 females; 43 males.

* Does not sum to 100 percent due to rounding.

These statistics reflect the broader range of circumstances that place women in a position necessitating assistance payments. A surprisingly large number of young men on the Fort Apache Reservation report that they are receiving assistance payments. More than half of the men receiving assistance are below the age of 50.

INCOME FROM SOCIAL SECURITY

Social Security payments were reported by 8 percent of the respondents. Of the forty-four people who reported this type of income, twenty-five were women. The age distribution of those receiving this type of income is reported in Table XLVI. More than 47 percent of the men receiving income from Social Security were 60 years of age or older. Of the women, 40 percent were 60 years of age or older. This concentration of recipients in the older age groups emphasizes the importance of Social Security as a source of retirement income. The importance of Social Security payments to people in different age groups can be ascertained from Table XLVII. The relatively small percentage of older residents receiving Social Security benefits reflects the isolation of the Fort Apache Reservation from the mainstream of the American economy. Most were probably not attached to firms or industries covered by such benefits in the past.

TABLE XLVI
DISTRIBUTION OF INCOME FROM SOCIAL SECURITY
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	12.0	10.5
20-29	16.0	21.1
30-39	16.0	0.0
40-49	8.0	5.3
50-59	8.0	15.8
60-69	32.0	31.6
70 and over	8.0	15.8
TOTAL	100.0	100.1*

N = 25 females; 19 males.
* Does not sum to 100 percent due to rounding.

TABLE XLVII
PERCENTAGE OF WHITE MOUNTAIN APACHES RECEIVING
SOCIAL SECURITY BENEFITS

Age Group	Percent Females in Each Age Group	Percent Males in Each Age Group
All age groups	9.2	6.8
60-69	23.5	20.0
70 and over	22.2	37.5

N = 25 females; 19 males.

Other Income Sources

Unemployed insurance payments were received by 5.3 percent of the respondents. Of the twenty-nine people reporting income from this source, only two are women. There does not appear to be any significant pattern of age distribution. Other frequently mentioned sources of income were income from gifts and income from the sale of property. Income from gifts was received by fifty-five women and thirty-eight men in the survey. It is the third most frequently mentioned source of income and may reflect the income-sharing propensity of the residents of the Fort Apache Reservation. Gifts were received by people of all ages, although more than half of the recipients are 30 years of age or younger and approximately 20 percent are 19 years of age or younger. Sale of property was a source of income to many residents of the Fort Apache Reservation. This income tended to accrue to the older respondents.

Most Frequently Mentioned Sources

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions

TABLE XLVIII

MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES

(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Other welfare	29.5
	Gifts	27.3
20-29	Earnings from a trade	31.3
30-39	Other welfare	23.6
	Earnings from a trade	21.8
	Gifts	20.0
40-49	Gifts	35.3
50-59	Earnings from a trade	25.0
	Other welfare	25.0
	Sale of property	25.0
60-69	Other welfare	23.5
70 and over	Other welfare	33.3

* Does not sum to 100 percent due to multiple responses.

the income source. The most frequently mentioned income source for female age groups is presented in Table XLVIII. Earnings from a trade constitutes the most important source of income for the 20-29 age group; however, in the other age groups it is also important. Welfare and income from gifts appear to be equally important. Gifts are important to the younger females, whereas welfare appears to be a major source of income for the older females in the survey.

The pattern is much more clear for Fort Apache males, as shown in Table XLIX. Earnings from a trade predominates all but two age groups. Fort Apache males in the 16-19 age group frequently mention gifts. It is not until the 70 and over group is reached that Social Security and welfare become the sources of income most frequently mentioned by Fort Apache males.

TABLE XLIX

MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES

(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Earnings from a trade	28.1
	Gifts	25.0
20-29	Earnings from a trade	61.2
30-39	Earnings from a trade	70.7
40-49	Earnings from a trade	56.4
50-59	Earnings from a trade	42.9
60-69	Earnings from a trade	33.3
70 and over	Other welfare	37.5
	Social Security benefits	37.5

* Does not sum to 100 percent due to multiple responses.

INCOME BY EDUCATION AND SEX

Incentive to participate in the labor force is partly related to accessibility to unearned income as noted previously. It is also possible that White Mountain Apaches do not have incentives to work toward higher levels of educational attainment because of the inability to associate educational achievement with higher income. The lack of educational attainment relative to the general population diminishes the ability of the Indian to compete with non-Indians in a competitive labor market.

TABLE L

INCOME BY EDUCATION AND SEX

(Percent)

Education	Sex	Income									
		$ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.8
	F	0.0	1.1	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.9
1	M	0.0	0.7	0.0	0.4	0.0	0.0	0.4	0.0	0.0	1.5
	F	0.0	0.7	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.1
2	M	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.4	1.2
	F	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2
3	M	0.4	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.4	1.6
	F	1.8	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	2.6
4	M	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	2.2
	F	0.7	1.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.9
5	M	0.7	1.1	0.4	0.0	0.0	0.0	0.4	0.0	0.7	3.3
	F	0.0	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.4	1.5
6	M	0.0	2.9	1.1	0.7	0.0	0.4	0.4	0.0	1.4	6.9
	F	1.5	1.5	2.2	0.4	0.0	0.0	0.0	0.0	0.4	6.0
7	M	0.7	2.5	1.8	0.7	0.4	0.4	0.7	0.0	0.7	7.9
	F	2.2	2.6	0.7	0.4	0.0	0.0	0.0	0.0	1.1	7.0
8	M	2.9	4.3	1.8	1.8	1.4	1.4	1.1	0.0	0.4	15.1
	F	2.6	5.2	2.6	1.5	0.7	0.4	0.7	0.0	4.8	18.5
9	M	1.8	3.2	5.0	1.4	2.1	2.1	0.7	0.4	0.7	17.4
	F	3.7	7.0	1.1	0.7	0.4	0.0	0.0	0.0	2.2	15.1
10	M	0.4	2.1	3.2	2.9	2.1	1.4	1.8	0.0	1.1	15.0
	F	3.3	4.0	1.8	0.7	1.1	1.1	0.4	0.0	1.8	14.2
11	M	1.4	3.2	1.4	0.7	0.4	0.7	1.1	0.0	0.4	9.3
	F	1.8	5.2	4.0	0.7	1.5	0.4	0.0	0.0	0.0	13.6
12	M	0.0	3.9	0.7	1.4	1.1	2.5	3.2	0.7	0.0	13.5
	F	1.5	4.8	0.4	1.5	0.0	0.4	1.1	0.0	0.7	10.4
13	M	0.0	0.4	0.0	0.7	0.0	0.0	1.1	0.0	0.0	2.2
	F	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.8
14	M	0.0	0.4	0.0	0.4	0.0	0.4	0.4	0.0	0.0	1.6
	F	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.0	0.0	1.2
15+	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Info. not available	M	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.2
	F	0.0	0.0	0.4	0.0	0.4	0.0	0.4	0.0	1.1	2.3
TOTAL	M	8.3	27.0	16.2	12.6	7.9	9.3	11.7	1.5	6.6	101.1*
	F	19.5	34.4	15.8	8.3	4.5	2.7	2.6	0.0	12.5	100.3*

N = 280 males; 272 females.

* Does not sum to 100 percent due to rounding.

Table L provides data on individual income classified by sex and educational attainment of recipients. The data are based on responses of 280 males and 272 females. It is seen that 8 percent of males and 19.5 percent of females earned no income during the past year irrespective of educational attainment. Females who attain a high school education or complete some grade of secondary school are more likely than males with the same educational attainment to be without a source of income. Over one-half (10.3 percent) of women without income had gone to high school one or more years. Alternatively, only 3.6 percent of men who had gone to high school at least one year were without income. Very few of the males had less than an eighth grade education.

More women than men are likely to earn between $1-499. Nearly 35 percent of women compared to 27 percent of men were in the category. Both sexes are represented in the lower educational levels more than is the case with Apaches receiving no income at all. Women with various levels of high school experience earning $1-499 account for 21 percent of females, whereas 13 percent of the males were in this category. Some persons of both sexes who had gone to college also receive less than $500 per year.

Men are more likely than women to earn over $500 per year. It has just been demonstrated that women outnumber men in the less than $500 categories. Approximately 16 percent of men and 15 percent of women receive between $500-999 per year. No women receive $10,000 or more annually, whereas about 1 percent of men do so. Roughly 2 percent of women and 11 percent of males receive $5,000-9,999 annually. The greater the level of income, the more likely the recipients are to have higher educational accomplishments. Individuals with less than an eighth grade education are more likely to receive less than $1,000 per year. Slightly over one-half of men dropping out of school after grade nine obtain incomes under $1,000 per year. Men completing grade ten and eleven have about a fifty-fifty chance to command incomes over $1,000 per year. Males completing high school are more likely than others of the same sex to receive incomes over $1,000 per year. However, those that go on to college fare best of all since they are more likely to find employment paying $3,000 or more annually.

Very few of the White Mountain Apaches attain income levels in excess of $3,000 per year irrespective of educational attainment. Such jobs as are available are "sheltered" in that non-Indians generally are not permitted to compete. Few Apaches venture off the reservation, which indicates they are not oriented toward competing in the general labor market. The lack of jobs on the reservation is reflected in these situations. The incentive to obtain more education does not appear to be very great.

Indians with high school experience fare better than others. The Fort Apache resident is aware of the advantages of education in finding work. The tribe requires compulsory attendance until age 18 or graduation. The lack of desire to venture off the reservation relegates him to a lower income than might otherwise be possible. At any rate, it should be obvious to the tribal young that more rather than less education is desirable to obtain such jobs as do become available on the reservation. Fifty-five percent of males and 53 percent of females have completed some level of high school in the past. This record appears reasonable in view of their isolation and lack of desire to integrate into the larger society. Tribal efforts to require formal school attendance will undoubtedly raise the percentage in the future.

The incentive to remain in school is not yet as great for the Fort Apache as it is for the general population. It is obvious that the record of high school completion is low relative to the general population. The wide-spread seasonality of employment and the relatively low complexity of on-reservation work dictates against high school completion or the earning of college degrees. The White Mountain Apache will apparently have to look beyond the reservation before incentives become expressed in both high educational achievement and higher incomes.

CONSUMPTION PATTERNS

The source and extent of income are important in explaining manpower utilization on the reservation. Such data provide insights into incentives to prepare educationally for competitive work. The Fort Apache Indian does not appear to be competitively oriented toward the world of work. . Most reservation work is of a sheltered nature with nearly one-half of it provided by government.

Indians may have opportunities to develop more services on the reservation than currently exist. Training for the purpose of running individually owned businesses may be possible. Before passing on the feasibility of training to operate on-reservation firms, it is necessary to determine how income is spent by income category of families, on what it is spent, and where it is spent. It is also possible to determine accessibility to distant areas to work by learning of expenditures on automobiles. Automobile repairs provide a rough index of the ability of Indians to commute to off-reservation work places.

Respondents were asked to provide information regarding where groceries, automobile repairs, and clothing were purchased. Did they usually buy on or off the reservation or about half and half. In addition they were asked to report on how such goods were paid for. That is, did they usually pay cash or use credit or were payments about equally divided between the two methods.

Purchase of Goods and Services

Table LI reveals the places where Apaches usually purchase their goods and services. Nearly 69 percent usually frequent on-reservation trading posts to take care of their grocery needs. Only 6 percent usually buy grocery items off the reservation. However, 21 percent buy about one-half of their groceries off and the remainder on the reservation. A part of the reason for purchasing about one-half of grocery items off Indian land is accessibility to stores in nearby non-Indian communities. Some are located nearer to off-reservation sources than to trading posts. Several trading posts that generally provide easy access for grocery shopping exist on tribal land. The lack of transportation and of facilities to store food items over even a short

TABLE LI
WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES
(Percent)

Place	Item Groceries	Automobile Repairs	Clothing
On-reservation	68.7	8.7	63.5
Off-reservation	6.2	15.8	7.6
Half and half	21.0	10.8	26.4
Do not know	4.2	2.2	2.6
None	0.0	62.5	0.0
TOTAL	100.1*	100.0	100.1*

N = groceries 552; automobile repairs 539; clothing 550.
* Does not sum to 100 percent due to rounding.

period of time may partly dictate against off-reservation shopping for groceries.

Almost 63 percent of the population do not have need for automobile repairs. A majority of working-age Indians do not own such vehicles. The lack of transportation to commute from reservation to town can seriously impede Apache ability to seek job opportunities off the tribal land. It also has serious implications regarding knowledge of job openings that may occur because the Indian does not often communicate with persons working off tribal land. Since many employers add to working forces by publicizing job openings to existing employees, the White Mountain Apache is at a disadvantage because of a lack of off-reservation activity.

The lack of transportation may also generate serious obstacles in commuting from one part of the reservation to another to work. Absenteeism and turnover rates may be high because of inaccessibility to automobiles.

Individuals that do own cars seem to prefer to purchase their repairs from off-reservation operations. The lack of automobile ownership may have dictated against efforts to obtain competencies in repairing certain types of engine malfunctions as well as expertise in brake and transmission repair. The location of existing repair servicemen may also dictate against transporting disabled vehicles to Indian sources of repair. Only 9 percent of respondents usually take care of their repair needs on tribal land. Another 5 percent purchase repairs from stations on the reservation. The need for automobile repairmen seems certain, but it is limited. This finding is due to the lack of car ownership by Indians. Demand for repairmen can be expected to increase as the reservation is successful in economic development attempts. In addition, expanding opportunities to own and operate gasoline service stations should coincide with increased automobile ownership.

Clothing purchases are more likely to be made from trading posts in Indian communities that serve as general merchandise stores. Only about 8 percent usually buy their clothing needs from off-reservation sources; however, approximately one-fourth (26.4 percent) divide their purchases in half between trading posts and nonreservation sources. Dispersion of the population across the tribal property dictates against the generation of specialty clothing shops. Also, the development of specialty shops may be hampered because of the modesty of Indian clothing demands. Most wear similar types of clothing and differentiation by style has not yet been developed. Low-income levels will possibly dictate against opportunities to diversify into clothing specialties for some time. The lack of interaction with nonreservation dwellers will also keep down demand for clothing in the foreseeable future.

METHOD OF PAYMENT

The Fort Apache Reservation Indian does not have freedom of choice to be as selective as the general population in choosing stores to patronize. It has already been demonstrated that income levels are relatively low and, in turn, access to automobiles is limited. Low income makes Indian families susceptible to extensive credit. Once credit is extended, the individual is locked-in regarding freedom to choose between stores. Freedom of choice may be regained by refusal to honor credit obligations, but this could be disastrous to those families that depend upon credit arrangements because of widespread seasonality of employment. Table LII reveals the extent of credit use on the Fort Apache Reservation.

Respondents were asked to supply information regarding how they usually paid for groceries, automobile repairs, and clothing. At least 70 percent usually obtain grocery needs on a credit basis. Another 9 percent did not know the basis on which their families contracted for grocery items. It seems logical to assume that a sizable proportion of them do so on credit. Only 21 percent usually purchase groceries on a cash basis.

TABLE LII
METHOD OF PAYING FOR FAMILY PURCHASES
(Percent)

	Item		
Method of Payment	Groceries	Automobile Repairs	Clothing
Cash	21.5	54.2	26.9
Credit	69.6	23.2	64.6
Oil company credit card		1.5	
Do not know	8.9	21.2	8.6
TOTAL	100.0	100.1*	100.1*

N = groceries 550; automobile repairs 203; clothing 550.
* Does not sum to 100 percent due to rounding.

Automobile repairs differ in that a majority of the population maintain cars and trucks by use of cash. The necessity to keep cars in running order by cash purchases of repairs may hinge on the source from which they are purchased. Off-reservation repairmen are often reluctant to provide services to Indians on credit. Inaccessibility to off-reservation credit forces most to save for major repairs or otherwise to provide cash when servicemen perform their work. On-reservation stations may be be the only source of credit work and they may not be strategically located or may be inferior in performance. Low-income levels may even dictate against credit for major repairs from reservation service stations. Only one percent (1.5) hold oil company credit cards that give them access to credit wherever they demand it.

Clothing needs, like groceries, are largely acquired on a credit basis. Generally, such purchases are from trading posts. Approximately 65 percent of the population obtain clothing by use of credit. Nearly 27 percent obtain their clothes by using cash. However, it should be noted at this point that some welfare sources such as churches send checks to the trading posts earmarked for clothing purchases only. Unearned income of this nature is certainly important to the Apache as demonstrated previously, but in the absence of such earmarked funds, it is likely that more would supply their clothing needs by use of credit.

Low-income families may be tied to reservation merchants more than those with higher earnings. Credit use may be essential for survival for low-income families since they are not able to make their purchases of necessities coincide with the dates their limited incomes are received.

METHOD OF PAYMENT BY FAMILY INCOME LEVEL

Table LIII provides a refinement of family cash and credit transactions. On-reservation merchants obtain considerable assistance from employers in that they are notified of the amount of net income a particular person can be expected to earn during a specified pay period. On the basis of such knowledge, trading post operators and others extend credit up to roughly 80 percent of the expected net income of the individual. Paychecks are then sent to the merchants, which insures that credit obligations will be honored. The Bureau of Indian Affairs and other government agencies cooperate in this practice. It will be recalled that all levels of government provide about one-half of all employment.

TABLE LIII

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	24.2	75.8	79.0	21.0	29.6	70.4
500 - 999	14.7	85.3	80.0	20.0	16.4	83.6
1,000 - 1,999	17.3	82.7	93.8	6.2	27.8	72.2
2,000 - 2,999	20.5	79.5	44.4	55.6	35.0	65.0
3,000 - 4,999	26.8	73.2	58.3	41.7	29.0	71.0
5,000 - 9,999	35.3	64.7	56.4	43.6	39.6	60.4
10,000 and over	30.8	69.2	62.5	37.5	53.9	46.1
Info. not avail.	24.3	75.7	73.3	26.7	29.7	70.3

N = groceries 498; automobile repairs 160; clothing 501.

Note: Summation is horizontally by good or service in each income category.

Groceries It seems obvious from Table LIII that credit is utilized extensively by families when buying groceries, irrespective of income levels. The tradition of purchasing groceries on credit appears so entrenched that even those with the financial ability to operate on a cash basis decline to do so. It may well be, however, that many of those in the higher-income brackets do not receive their funds on a regular basis. Some may receive money on a seasonal basis such as only at times that cattle sales are held. In such cases, credit purchases may be necessary. Several months may lapse between the time when grocery purchases are necessary and the time income is received. It is also possible that the dependence on grocery credit throughout all ranges of income reflects a lack of accepted consumer practices. The availability of consumer education might alleviate some of the credit practices among those that can conceivably afford to exercise greater consumer choice.

Families with incomes ranging from $0-2,999 probably utilize credit to the fullest possible extent out of sheer economic necessity. Family size and low incomes force them to take advantage of all available avenues of providing family needs. Categories above $3,000 evidence some decline in credit use for groceries, but the decrease is not proportionate to the rise in income.

It seems obvious that the White Mountain Apache survives in a credit economy. The condition prevails throughout the entire range of family incomes. Consequently, credit use has the effect of establishing virtual monopoly situations for trading post operations with possible competition between traders for Indian business when several are located in the same community. Little competition from off-reservation merchants exists and little is possible partly because of a lack of transportation.

Automobile Repairs. Accessibility to automobile repairs on a credit basis generally seems to rise with income. Approximately 79 percent of families in the $0-499 annual income range must pay cash for repair services. Twenty-one percent of repairs are purchased through the use of credit.

Credit does not seem highly available to families with incomes of $1,000-1,999; only 6 percent use credit. This may relate largely to the types of cars and trucks purchased by the lower-income groups. That is, their demand for automobile repair services may be more frequent and of a more serious nature than is the case with families with higher incomes. Sources of credit available to low-income groups can dry up with excessive need relative to those groups on a more solid financial foundation. Higher-income families are more likely to purchase later model automobiles and, therefore, their need for repairs on credit are relatively less frequent. Repairs that are needed on the later model cars are less likely to be serious, and the need for credit is less.

It seems logical to assert that lower-income families will be less able than families with higher incomes to commute uninterrupted to work or to seek jobs. The ability to honor credit terms declines as the need for such services increases.

Clothing Purchases. The availability of clothing items relative to automobile services at reservation outlets is reflected in the increase in credit usage by income group. The $10,000 and over category is the only one supplying over one-half of clothing needs on a cash basis. Clothing purchases depend heavily on cash transactions, but less so than is the case with automobile repairs.

Credit purchases of clothing account for over one-half of such expenditures on the part of all the income groups under $10,000 per year. The importance of the trading post as a general merchandiser is once again reflected in this record.

Summary of Method of Payment. All three expenditure categories provided give insights into the monopoly positions of trading posts on the Fort Apache Reservation. Traders are secure in large part because of the low family incomes reflected in the inability to travel to adjacent towns to purchase goods and services on a cash basis. Credit terms are generally unavailable to Indian families in towns near the tribal boundaries.

Automobile repairs are largely provided on a cash basis off tribal land. This in large part reflects the lack of garages on Indian land, but it also reflects the inaccessibility to credit from nonreservation merchants.

Credit is strengthened on the reservation because of widespread support from government agencies assisting traders in collecting from employed Indians. The lack of assistance might lead to an even lesser standard of living than that which currently prevails. At the same time, the existence of credit and the manner in which it is administered limits the range of freedom available to Apaches to choose how they will expend limited incomes.

EXPENDITURE PATTERNS

The expenditure patterns illustrated in Table LIV both support and extend the discussion of the preceding section. On the basis of all respondents purchasing the three categories of goods, it is obvious that of those paying cash, the lowest family income category constitutes more than any other group. This aspect reflects the concentration of Apaches into the lowest family income range. Nearly 8 percent of all grocery purchasers who pay cash for transactions are in families earning less than $500 per year. The next highest cash paying group earns $5,000-9,999 annually and accounts for nearly 4 percent of Apaches. The same trend exists in automobile repairs and clothing purchases. In terms of all buyers of the items, those paying cash are more numerous in the $0-499 and $5,000-9,999 categories. Roughly 19 percent of all automobile repairs and 9 percent of all clothing are purchased on a cash basis by the least well-to-do Indians. They are followed closely by individuals with family incomes in the $5,000-9,999 category.

In terms of only those paying cash for items purchased, families in the $0-499 annual income category are most numerous. They constitute nearly one-third of the total paying cash for groceries, 28

TABLE LIV

METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL GROCERIES, AUTO REPAIRS, AND CLOTHING

(Percent)

	Method of Payment											
	Cash						Credit					
	Percent of Total Purchasing Item			Percent of Total Paying Cash			Percent of Total Purchasing Item			Percent of Total Using Credit		
Family Income	(1)Gro.	(2)Auto	(3)Cloth.	(4)Gro.	(5)Auto	(6)Cloth.	(1)Gro.	(2)Auto	(3)Cloth.	(7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	7.6	19.4	9.4	32.8	28.2	31.8	24.5	5.0	23.0	31.9	16.0	32.6
500 - 999	2.0	5.0	2.2	8.6	7.3	7.4	11.7	1.3	11.2	15.2	4.0	15.8
1,000 - 1,999	1.8	9.4	3.0	7.8	13.6	10.1	8.6	0.6	7.8	11.3	2.0	11.1
2,000 - 2,999	1.6	2.5	2.8	6.9	3.6	9.5	6.2	3.1	5.2	8.1	10.0	7.4
3,000 - 4,999	2.2	8.8	2.2	9.5	12.7	7.4	6.0	6.3	5.4	7.8	20.0	7.6
5,000 - 9,999	3.6	13.8	4.2	15.5	20.0	14.2	6.6	10.6	6.4	8.6	34.0	9.1
10,000 or more	0.8	3.1	1.4	3.4	4.6	4.7	1.8	1.8	1.2	2.4	6.0	1.7
Info. not avail.	3.7	6.9	4.4	15.5	10.0	14.9	11.3	2.5	10.4	14.7	8.0	14.7
TOTAL	23.3	68.9	29.6	100.0	100.0	100.0	76.7	31.3	70.6	100.0	100.0	100.0

N = (1) Groceries = 498
(4) Cash = 116
(7) Credit = 382

(2) Auto repairs = 160
(5) Cash = 110
(8) Credit = 50

(3) Clothing = 501
(6) Cash = 148
(9) Credit = 353

percent of automobile repairs, and 32 percent of cash clothing purchasers. Concentration of such a large proportion of Apaches in the low-income category reflects their importance to the reservation economy. The heavy concentration of cash purchasers in the less than $500 income category does not suggest they are most important in total dollar volume of all goods sold. The heavier reliance on cash does suggest their inability to provide adequate diets for families. In addition, they are most likely to be poorly clothed and have the least access to transportation for the purpose of improving their economic lot.

The $5,000-9,999 income category follows the under $500 category in terms of number of families purchasing all items on a cash basis. The more affluent group accounts for less than one-half of the smallest-income group. However, in total dollar outlay for all items, the more affluent are probably more important to reservation economy than the least well-to-do families.

Credit is more important to low-income families for basic subsistence than to families with higher incomes. This is the case despite the relatively high use of credit by higher-income groups. The $0-499 income group accounts for one-third of all credit purchases of groceries with 77 percent of all groceries sold to families being on a credit basis. Less than one-fourth of all groceries are sold on a cash basis. Families with incomes ranging from $2,000-9,999 generally require about the same total of credit. However, the importance of such transactions to the $2,000 group is greater than to the $5,000 group.

Less than one-third (31.3 percent) of total automobile repairs are on a credit basis. Nearly 11 of the 31 percent is accounted for in the $5,000-9,999 income category. Lower-income groups also get their repairs by use of some credit, but it does not appear to be available to very many. In terms of all credit users, the $0-499 income category accounts for 32 percent of families purchasing groceries by this method. They are twice as numerous as the next highest group, which is the $500-999 range, and which accounts for 15 percent of credit using families. The two groups receiving $0-999 also provide the greatest demand for clothing credit. Combined they account for roughly 48 percent of families seeking credit for apparel. The low-income families obviously must provide their basic needs by use of credit, which has the effect of tiding them over during hard periods.

Credit use for automobile repairs is much greater in the two income categories ranging from $3,000-9,999 annually. The $5,000-9,999 group accounts for 34 percent of families using repair credit while the $3,000-4,999 group accounts for 20 percent. These groups have greater access to automobile purchases than families receiving less income. They are also more able to afford to contract for credit repairs than families with lesser ability to repay. Even so, the $0-499 income group accounts for 16 percent of families requiring repair credit purchases.

In short, it is obvious that credit is a way of life with the White Mountain Apache. Credit purchases are demanded by all income groups, but are absolute necessities for the lowest-income recipients. Consumer education programs might assist all income groups in terms of more efficient allocation of scarce dollars, but it would seem to be especially appropriate for those on meager family incomes.

NOTES

[1] White Mountain Apache Tribe, *Preliminary Overall Economic Development Program*, Whiteriver, Arizona, 1961, p. 11.

[2] Leon H. Keyserling, *The Role of Wages in a Great Society* (Washington: Conference on Economic Progress, 1966), p. 21.

[3] *Economic Report of the President* (Washington: U. S. Government Printing Office, 1968), p. 232.

Chapter 3

The San Carlos Reservation

The San Carlos Reservation was established December 14, 1872 by Presidential Executive Order. It is located in eastern Arizona to the south and adjacent to the Fort Apache Reservation. Over 1.6 million acres of land are held in trust for the San Carlos Apache by the Bureau of Indian Affairs.[1]

Most of the Indian acreage is mountainous with a high elevation of 8,200 feet in the northeastern section of the tribal possession. Elevations also reach a low of 2,290 feet near Coolidge Dam. Annual precipitation averages fifteen inches over the entire terrain. Of course, there is considerable variation from the average by location. Available natural resources include approximately 90,000 acres of ponderosa pine forest, asbestos, gypsite, tufa stone, and considerable range land for cattle grazing. Livestock raising has been an important industry for the San Carlos Apache.

The on-reservation population age 16 and and over numbers 1,565 on the basis of records maintained by the Public Health Service Indian Hospital. The Indian Manpower Resource Study sample size was 390 based on the number of persons over 16 years of age considered of working-force age. Only 350 were usable responses.

This study deals with on-reservation employment sources (nonfarm), current characteristics of the manpower resource, employment and unemployment (including agriculture), occupation and industry characteristics, training and education, and income and expenditure patterns. The principal objective here is to provide a detailed description of the San Carlos Apache human resource, and to give insights into the extent of manpower utilization, the degree of poverty, and potential for more effective use of reservation Indians.

ON-RESERVATION NONFARM EMPLOYERS

The San Carlos Apache has few opportunities for on-reservation employment in nonfarm occupations. Table I reveals that as of July, 1968, there were 391 Indians employed on the reservation by several types of employers. The single most important reservation employer is the tribe itself. The tribe operates a few enterprises and provides normal local governmental functions. It maintains its own general store in addition to those operated by private traders. Sales persons, butchers, and managers are employed from the Indian population. Service stations are also operated by the tribe, employing a few persons to provide the normal services associated with gasoline stations. Policemen, judges, and court clerks also receive their positions and remuneration from the tribal governments, as is also the case with councilmen.

TABLE I

SAN CARLOS RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed
Arizona State Department of Public Welfare	74
Arizona State Employment Service	1
Bureau of Indian Affairs	58
Bureau of Indian Affairs Job Corps Center	13
Asbestos Mining and Milling	24
Public Health Service Indian Hospital	42
Public schools	39
Trading posts	13
San Carlos Apache Tribe	76
Logging and milling	51
TOTAL	391

The Arizona State Department of Public Welfare as an employer follows the tribal government in number of Indians employed. The types of work performed range from clerk-typists to mechanics and medical records clerk. The agency employs seventy-four Indians in the total of ninety-three jobs.

The Bureau of Indian Affairs is third largest employer of San Carlos Indians. The agency employs seventy-one of the tribal members, including those in the Job Corps Center. The San Carlos Job Corps Civilian Conservation Center utilizes tribesmen as resident youth workers, clerks, and for maintenance of buildings and grounds. The BIA's general operation requires the services of reservation Apaches in such jobs as waiters, fire control workers, secretaries, and construction inspectors.

The Indian Hospital operated by the United States Public Health Service provides seventy persons with jobs, and Indians account for forty-two of the total. Tasks performed by Indians range from clerk typists to nurses.

Public school employment accounts for thirty-nine Indian jobs. Apaches are utilized largely as teacher's aids and bus drivers, but a few jobs are available for janitors and clerk typists.

The mining and milling of two asbestos firms offers jobs for twenty-four Indians. The employed Apaches in this industry are concentrated in the laborer category.

The availability of Ponderosa pine on the reservation provides the basis for a logging and milling firm. Indians account for fifty-one of ninety employees. A relatively wide assortment of jobs are performed by Apaches with heaviest concentration in chain and stacking tasks.

Traders operate the general merchandise stores; these provide on-reservation employment for thirteen tribesmen as cashiers and general clerks.

Total on-reservation jobs are not plentiful with only 391 available Indian positions for 1,565 persons of working-force age, leaving considerable work potential to be utilized on or off the reservation. The ability of the Indians to compete for off-reservation jobs depends upon their particular qualifications. The nature of the San Carlos manpower resource is important to an understanding of its successes and failures in job market activity.

CHARACTERISTICS OF THE MANPOWER RESOURCE

The composition of the San Carlos population 16 and over is shown in Table II based upon the survey of 350 respondents. Females account for nearly 53 percent of the total working-age population and males, 47 percent.

TABLE II

SAN CARLOS POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	12.4	6.6	15.8	7.4
20-29	19.5	10.3	18.8	8.9
30-39	23.8	12.6	24.9	11.7
40-49	18.4	9.7	12.1	5.7
50-59	12.4	6.6	12.1	5.7
60-69	9.2	4.9	9.7	4.6
70-79	2.7	1.4	4.2	2.0
80-89	1.6	0.9	1.2	0.6
100-109	0.0	0.0	1.2	0.6
TOTAL	100.0	53.0*	100.0	47.2*

N = 350; 185 females; 165 males.

* The two categories combined do not sum to 100 percent due to rounding.

AGE AND SEX

Heaviest age group concentration of both sexes is the 30-39 category. Approximately 24 percent of women and 25 percent of men are in their thirties and their combined total represents nearly one-fourth of the total working-age population. It is in this age group that family responsibilities are usually considered high because they are the parents of school age children.

Females outnumber men in the 40-49 age category and these women represent 18 percent of all women and nearly 10 percent of the total San Carlos population. Males of the same age, however, represent only about 12 percent of all males, and 6 percent of the San Carlos population.

Generally, women of working-force age outnumber men in nearly every age category except the teen-age and over 70 groups. There are more teen-age males available to provide labor force participation potential than females. Approximately 7 percent of the working-age population are males between ages 16-19. Slightly fewer females are of the same age (6.6 percent). Among men, however, the same group constitutes nearly 16 percent of all males while teen-age girls account for only 12 percent of women. Young adults aged 20-29 represent 19 percent of the working-age population with women providing 10 percent of the population compared to 9 percent for men.

The proportion of the working force represented by women in their fifties is larger than for men the same age. Yet, it seems that the chances for women to reach older age are less than is the case for men. Nearly 62 percent of tribal women are between ages 20-49 whereas only 56 percent of men are in the same group.

The dispersion of the population in the age categories 16-19 indicates a significant potential for productive employment. The population is youthful enough to provide a substantial pool of labor to possible reservation employers in terms of numbers alone. However, it is recognized that the potential for labor force activity involves more than age. Some other characteristics of the San Carlos population are needed to speculate on the potential for labor force attachment.

FAMILY CHARACTERISTICS

Marital status provides insights into the economic need for permanent attachment to the labor force. It should also be recognized, however, that single persons may have family responsibilities too. This is particularly the case on Indian reservations with a long tradition of extended family living. Table III provides the marital status of the San Carlos Apache based on 349 responses.

TABLE III
MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	59.6
Widowed	7.2
Divorced	3.7
Separated	3.7
Never-married	25.8
TOTAL	100.0

N = 349

Marital Status. Roughly 60 percent of the population is married. This percentage indicates a substantial proportion of the population has cause to desire jobs. The extent of female employment need is a function of several things. One factor in female work needs is the level of family income coupled with established standards of living. The inability of men to obtain income places the burden upon women or young people to attempt to close the gap for subsistence purposes.

Approximately 26 percent of the working-age population has never married. A significant proportion of this group is likely to fall in the teen-age category; these never-marrieds have fewer responsibilities for earning a livelihood than their older counterpart. Approximately 7 percent of the population are widowed, and these probably are found largely in the older age groups.

Divorce and separation is found among 7.4 percent of Apaches over 16 years of age. It is obvious that the family structure appears somewhat less stable than is the case within some other tribes in the study. For example, divorced Papagos account for only 1.6 percent of the population whereas on the San Carlos Reservation, the percentage is over twice as high. Divorce and separation normally place greater burdens on both sexes to attach themselves to the labor force. That is to say, it is more difficult to obtain income sufficient to support two separate places of abode. Consequently greater pressure to find work is likely to exist.

Number of Children. Another revealing aspect of family structure is reflected in Table IV, which illustrates the number of children

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	26.8
One	6.4
Two	8.8
Three	10.5
Four	8.8
Five	9.3
Six	8.2
Seven	7.6
Eight or more	13.7
TOTAL	100.1*

N = 349

* Does not sum to 100 percent due to rounding.

reported by respondents. The median number of children based on all responses, including the never-marrieds is three. It is recognized, however that inclusion of the never-marrieds may distort the family size picture unless, of course, they in fact have children of their own. Some of the respondents included in the category may have been married by common law, but do not consider themselves married by definition. Despite the possible distortion just mentioned, it is obvious that family size is relatively large. Nearly 14 percent have eight or more children. Approximately 48 percent of the respondents over 16 have four children or more. Such a finding does not imply that all reported children are dependent on parents for support. Indeed, many have families of their own and may be totally independent of parents for sustenance.

TABLE V

NUMBER OF CHILDREN BY MARITAL STATUS

(Percent)

Marital Status		Number of Children									Info. not Avail.	Total
		1	2	3	4	5	6	7	8+	0		
Married	(1)	6.7	10.1	11.5	10.1	13.5	11.5	10.1	20.7	5.3	0.0	100.0
	(2)	4.0	6.0	6.9	6.0	8.0	6.9	6.0	12.3	3.1	0.3	
Widowed	(1)	16.0	12.0	8.0	16.0	8.0	12.0	8.0	12.0	4.0	4.0	100.0
	(2)	1.1	0.9	0.6	1.1	0.6	0.9	0.6	0.9	0.3	0.3	
Divorced	(1)	7.7	23.1	15.4	15.4	0.0	7.7	15.4	7.7	0.0	7.7	100.1*
	(2)	0.3	0.9	0.6	0.6	0.0	0.3	0.6	0.3	0.0	0.3	
Separated	(1)	0.0	23.1	30.8	23.1	15.4	0.0	7.7	0.0	0.0	0.0	100.1*
	(2)	0.0	0.9	1.1	0.9	0.6	0.0	0.3	0.0	0.0	0.0	
Never-married	(1)	3.3	0.0	4.4	0.0	0.0	0.0	0.0	0.0	88.9	3.3	99.9*
	(2)	0.9	0.0	1.1	0.0	0.0	0.0	0.0	0.0	22.9	0.0	
Info. not avail.	(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
TOTAL	(2)	6.3	8.7	10.3	8.6	9.2	8.1	7.5	13.5	26.3	1.2	99.7*

N = 350

(1) = Percent of total in each marital status category.

(2) = Percent of total responses.

* Does not sum to 100 percent due to rounding.

Table V provides data regarding number of children by marital status. Such a refinement permits the elimination of the never-married category except when children are reported.

The median number of children reported by the married group is five compared to a median of three children when the group includes the never-marrieds. Again this number does not indicate current dependency, but it does indicate the relatively large size of San Carlos Reservation families. Nearly 21 percent of the married individuals reported having eight or more children. Another 10 percent have seven. Nearly 12 percent report six children. Only 5 percent of married individuals have no children and another 7 percent only one.

Only 11 percent of the never-marrieds report having children, but 4 percent have three, and 3 percent have one child. The median number for the widowed group is four; but this group is not large relative to the total population. It is likely that children of the widowed group are beyond the dependent stage since the widowed are likely to be found in an older age group.

Divorced respondents reported a median of four children, and those who are separated reported three children. Divorces and separations, however, do occur even among those persons with seven, eight, or more children.

Taken together, Tables IV and V make it obvious that the San Carlos Apache has rather extensive family responsibilities. Large families are prevalent, and there appears to be incentive to work even if this desire is not expressed in the form of actively seeking work. The extended family pattern can place significant pressures on various family members to find income despite the age of the children. Children of various ages may remain in or near the home of parents and share in the fortunes or misfortunes of the extended family's economic life.

EDUCATIONAL ATTAINMENT OF THE POPULATION

Employer hiring practices vary, but educational attainment is usually one of the most important variables considered before hiring employees. This is particularly true when economic activity is relatively slow and labor markets generally reflect excessive supply relative to demand. In competing for scare jobs at such times, persons with higher educational attainments are likely to meet with greater success than those with less. Table VI reveals the educational attainments of working-age San Carlos Apaches.

It is significant to note that not a single respondent reported the attainment of a college degree. However, men are more likely to go on to college than women. A few women (2.16 percent of all females) completed one year of college, but not a single respondent achieved higher formal training than this. Nearly 3 percent of men completed one year of college, and almost 1 percent of males reported they had completed the second and third years of college. The pioneering experiences of the few San Carlos Apaches in starting college educations should make the path somewhat easier for other young Apaches to go on to colleges and universities in the future. The attainment of college degrees, however, will be economically useless unless the recipients are willing to move to locations where their abilities are in demand. An alternative is, of course, development of

TABLE VI

EDUCATIONAL ATTAINMENT OF THE POPULATION

Educational Attainment by Grade Completed	Female		Male	
	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	0.9	1.6	0.6	1.2
1	0.6	1.1	0.6	1.2
2	0.6	1.1	2.0	4.2
3	0.3	0.5	0.6	1.2
4	2.3	4.3	0.9	1.8
5	2.6	4.9	2.3	4.9
6	4.6	8.7	2.6	5.5
7	3.4	6.5	2.0	4.2
8	7.7	14.6	6.6	13.9
9	5.7	10.8	8.6	18.2
10	10.0	18.9	8.0	17.0
11	5.1	9.7	5.4	11.5
12	6.6	12.4	4.0	8.5
13	1.1	2.2	1.1	2.4
14	0.0	0.0	0.3	0.6
15	0.0	0.0	0.3	0.6
16	0.0	0.0	0.0	0.0
17+	0.0	0.0	0.0	0.0
Info. not available	1.4	2.7	1.4	3.0
TOTAL	52.9*	100.0	47.3*	99.9**

N = 185 females; 165 males.

* The two categories combined do not sum to 100 percent due to rounding.

** Does not sum to 100 percent due to rounding.

the reservation economy to absorb such degree holders in their areas of competency. Such a situation is likely to require a long period of time in the absence of massive governmental subsidies.

Male Apaches seem to have greater incentive to go on to high school than females, but they do not remain to receive diplomas. Nearly 47 percent of men have dropped out after the ninth, tenth, or eleventh grades. Aside from the few who went to college, only 8.5 percent of the male population or 4 percent of the working-age population completed high school. Male high school dropouts represent twenty-two percent of the total San Carlos population.

Nearly 21 percent of the total population are female high school dropouts. They account for 39 percent of all working-age females. Women fare somewhat better than men in achieving high school diplomas. Approximately 12 percent of all women, constituting 6.6 percent of the total population, completed high school. The higher incidence of completion may reflect a lesser burden on females to aid in family support. Even so, the record clearly indicates a low occurrence of high school completion on the part of both sexes. Neither sex appears to have much pressure placed on them to earn high school diplomas.

A significant proportion of both males and females end their formal training at the eighth grade level. Nearly 15 percent of women, considered of working age at the time of the study, ended their educations at the completion of grade school; they constitute nearly 8 percent of the total population. For men the percentage for eighth grade termination is similar: approximately 14 percent of men or about 7 percent of the total working-age population. Such a record imposes serious limitations to competing for off-reservation jobs.

The record is even more revealing when it is considered that 38 percent of all on-reservation males have ended their formal schooling at some point below eighth grade, or did not attend school at all. They account for 18 percent of the total San Carlos population. It is likely that the older Apaches largely make up this total.

Females also include a high percentage of grade school dropouts. Forty-three percent of women have ended their formal years of education at some point during the first eight years. They constitute nearly 23 percent of the total population. Some, of course, did not attend school at all.

In the past, there has been little economic incentive for the San Carlos Apache to attend school. The result is serious in terms of either competing for off-reservation employment or in attempting to attract employers on to Indian land. Retraining for jobs would entail a vast undertaking encompassing the entire population. While a few have attained educational levels that might qualify them for employment, most have not. Firms attracted to the reservation under current manpower conditions could be those requiring the services of marginal workers. Employers requiring more refined skills than those normally possessed at the lowest labor force entry phase will have to provide considerable on-the-job training. Federal manpower programs could have the effect of alleviating the situation somewhat. Even so, the San Carlos Indian may have to demonstrate a willingness to relocate off the reservation.

Facility With English. An important prerequisite to employment is the ability to receive and execute instructions given in English. A determination of this ability was attempted by asking respondents, "What language do you most often speak in the home?" Slightly more than one-half (51.55 percent) revealed that an Indian language was spoken more than English in the home. The remainder usually speak English at home. English is spoken by approximately 94 percent of the total population, leaving roughly 6 percent that cannot do so. This characteristic was uncovered by asking respondents, "Do you speak English?" It is likely that the elderly are the only ones unable to speak the English language. Still another question asked was, "Do you read English?" Ninety-two percent said they could; such a response leaves 8 percent that cannot read English. This finding is highly consistent with the educational record discussed previously. There is approximately a difference of 2 percent between those who can speak English and those who cannot read it; some can communicate orally in English, but lack the formal educational foundation to be able to read.

In short, communication does not appear to pose a major problem on the San Carlos Reservation. The total inability of persons to speak or read English is likely to be concentrated in the elderly age groups. These persons are not usually available for labor market activities. Instructions such as are likely to be given to relatively unskilled workers appear to be within the realm of understanding of the San Carlos Apache. Some of the population are obviously capable of utilizing the English language efficiently as evidenced by completion of some of college training. However, the widespread practice of using the Indian language in the home indicates that the ability to communicate in English is not as efficient as revealed by respondents. Considerable training in basic communication seems to be required for maximum ability to provide job skills training and, in turn, general labor market participation.

UTILIZATION OF THE HUMAN RESOURCE ON THE SAN CARLOS RESERVATION

The population list used on the San Carlos Reservation contained the names of 2,106 people 16 years of age or older. The list, however, contained the names of some people not on the reservation at the time of the survey. Of the 525 names selected at random from the population list, 390 are believed to be on the reservation. On the basis of this information, it is estimated that 1,565 of the population 16 and over are on the reservation. This constitutes the human resource that is currently available. It should be noted that the people not found had moved off the reservation, were in the military service, or their whereabouts was not known. There may be other residents who have moved back onto the reservation since the list was compiled two years ago. Such persons were not included in the survey; their number, while not known, is not believed to be large.

This section examines the extent to which the human resource is utilized on the San Carlos Indian Reservation. First, attention is given to the labor force participation of the San Carlos population. The discussion of labor force participation will be followed by an examination of unemployment and underemployment.

LABOR FORCE PARTICIPATION

The San Carlos residents who were interviewed were asked about their work activity during the year prior to the survey and their responses are reported in Table VII. Only 37.5 percent of those interviewed responded that their primary activity in the year prior to the survey was working. Another 1.4 percent of the people have a job but were not at work, and 2.3 percent were looking for work most of the year. These three groups are included in the labor force. The information presented in Table VII suggests that about 40 percent of the population was in the labor force. The San Carlos labor force participation rate is approximately two-thirds of the U. S. labor force participation rate of 59.4 percent.

The difference between the San Carlos labor force participation rate and the U. S. labor force participation rate is large enough to warrant close attention. The well known relationship between age and labor force participation suggests that perhaps the low San Carlos labor force participation rate can be explained by its age distribution.

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	37.5
With a job but not at work	1.4
Looking for work	2.3
Keeping house	28.4
Going to school	16.6
Unable to work	9.5
Retired	2.9
Other	1.4
TOTAL	100.0

N = 349

Table VIII presents the San Carlos age distribution of the population over 16 years of age, along with the U. S. population age distribution. The San Carlos age distribution appears to be considerably younger than the U. S. population. The San Carlos distribution has a greater concentration in each of the three age groups below 40 years of age. The U. S. distribution has a greater concentration in each of the four groups above 39 years of age. The relative youthfulness of the Indian population could result in a higher potential labor force participation rate than for the general U. S. population.

An attempt was made to ascertain the impact of the difference in age distributions on the overall labor force participation rate. An estimate of the overall labor force participation was made under the assumption that the San Carlos population was distributed in the same way that the U. S. population was distributed, but that the age group labor force participation rates on the San Carlos Reservation remained the same. The assumptions of a U. S. age distribution and the San Carlos labor force participation rates by age group yielded a labor force that was slightly smaller than exists at the present time. That is, the youthfulness of the San Carlos population tends to drive

TABLE VIII

AGE DISTRIBUTION: SAN CARLOS AND UNITED STATES

(Percent 16 years of age or older)

Age Group	San Carlos	U. S.
16-19	14.0	8.7
20-29	19.1	17.9
30-39	24.3	20.2
40-49	15.4	18.6
50-59	12.3	14.9
60-69	9.4	11.1
70 and over	5.4	8.5
TOTAL	99.9*	99.9*

N = 350

* Does not sum to 100 percent due to rounding.

Source: U.S. Census of Population, 1960, for U.S. age distribution.

up the potential labor force size. If the population of the San Carlos Reservation was distributed in the same way as the U. S. population, the reservation labor force would be 2.8 percent smaller than it is.

While the differences between overall San Carlos labor force participation and the U. S. labor force participation cannot be explained by differences in the age distributions of the two populations, there is a relationship between age and labor force participation on the reservation. San Carlos labor force participation rates by age group are presented in Table IX. The San Carlos rate is much below the U. S. rate for the 16-19 year old group. The U. S. rate is higher for the 20-29 group, but the San Carlos rate for the 30-39 age group is very close to the U. S. rate. Participation rates for the San Carlos Reservation begin to decline in age groups older than the 30-39 group. This is contrary to the U. S. pattern. The most noticeable difference between the San Carlos participation rates and the U. S. rates is the very low rate prevailing on the San Carlos Reservation for the under 20 group and the over 59 group. The pattern of labor force participation rates on the reservation suggests delayed entry into the labor force and early withdrawal.

The overall labor force participation rate for San Carlos women is 22.7 percent as shown in Table X. This is slightly more than half of the U. S. participation rate for women. The pattern of labor force

TABLE IX
CIVILIAN LABOR FORCE PARTICIPATION RATES:
SAN CARLOS RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	San Carlos	U. S.
16-19	12.2	44.2
20-29	43.3	67.0
30-39	65.9	70.3
40-49	44.4	73.4
50-59	37.2	74.2
60 and over	11.5	29.5
All age groups	39.1	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

participation rates for women by age group on San Carlos is very much the same as the pattern for the population in general except that the female rates are lower. The pattern is indicative of delayed entry and early withdrawal from the labor force. The rates for the 30-39 age group approach that for the United States, but the rates for the 60 and over group and the under 20 group are well below the rates for the country as a whole. Note also, the San Carlos 40-49 group is lower than that of the 50-59 group.

TABLE X
FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
SAN CARLOS RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	San Carlos	U. S.
16-19	13.0	37.4
20-29	27.8	49.2
30-39	38.6	45.2
40-49	17.7	52.2
50-59	21.7	55.9
60 and over	4.0	17.8
All age groups	22.7	41.5

Source: Manpower Report of the President, 1964, for U.S. rates.

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
SAN CARLOS RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	San Carlos	U. S.
16-19	11.5	51.4
20-29	61.3	88.0
30-39	95.1	97.8
40-49	90.0	96.3
50-59	55.0	92.3
60 and over	18.5	44.2
All age groups	57.6	79.7

Source: Manpower Report of the President, 1964, for U.S. rates.

The San Carlos labor force participation rate for men is 57.6 percent, compared to a U. S. rate of 79.7 percent as shown in Table XI. Thus, the San Carlos rate for males is less than three-quarters of the U. S. male rate. Note that the labor force participation rate for San Carlos males in the 30-39 age group is almost equal to the U. S. rate. The rate for the 40-49 group is also surprisingly close to the U. S. rate. A large difference also exists between San Carlos and the U. S. participation rates in the under 20 and the 60 and over groups. The pattern of participation for San Carlos males appears to be the same as that for women only not as pronounced. The pattern is one of delayed entry and early withdrawal.

In summary, the labor force participation rates for the San Carlos Reservation are below those for the United States. Some of the age groups have labor force participation rates that are surprisingly high. This is especially true for males between the ages of 30 and 49. However, the overall pattern of labor force participation on the San Carlos Reservation indicates that people enter the labor force at a later age and withdraw from the labor force at an earlier age than the population of the United States in general.

Reason for Not Entering the Labor Force

Approximately 60 percent of the San Carlos population 16 years of age or over is not in the labor force. This nonparticipation rate is substantially higher than the comparable rate for the United States. The nonparticipants can be regarded as those not working and not looking for work; this group comprises a large portion of the total adult population on the San Carlos Reservation.

Those people not working and not looking for work were asked: "If you are not looking for work, what are the reasons you are not looking for work?" The replies to this question are provided in Table XII. As indicated, the most important reason for not seeking employment was family responsibility. Of the seventy-one people listing this reason for not seeking work, all but four were women. Of the women listing family responsibilities as a reason for not seeking employment, 76 percent are married and only 3 percent have never been married.

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work is available	2.6
Couldn't find work	2.7
Lacks necessary schooling, training, or experience	15.4
Employers think too young or too old	1.7
Personal handicap	12.8
Can't arrange for child care	8.7
Family responsibilities	47.7
In school or other training	12.8
Ill health or physical handicap	27.5
Other	8.7
Don't know	2.0

N = 149

* Does not sum to 100 percent due to multiple responses.

Ill health or physical handicap was listed by 27.5 percent of those not seeking employment as a reason for not seeking work. Those who listed this reason for not seeking work tended to be older than the population in general as shown in Table XIII. This is especially noticeable for men. More than 85 percent of the men who listed this reason for not seeking employment were 50 years of age or older. This suggests that early withdrawal from the labor force may be at least partly attributed to deterioration of health as individuals get older.

TABLE XIII
AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK
DUE TO ILL HEALTH OR PHYSICAL DISABILITY

Age Group	Percent Females	Percent Males
16-19	5.0	4.8
20-29	5.0	0.0
30-39	10.0	9.5
40-49	25.0	0.0
50-59	10.0	28.6
60-69	25.0	28.6
70-79	10.0	19.1
80 and over	10.0	9.5
TOTAL	100.0	100.1*

N = 20 females; 21 males.
* Does not sum to 100 percent due to rounding.

Very few of the respondents said that they did not seek work because they believed no work was available or because they couldn't find work. On the surface these two responses suggest that labor force nonparticipation is not related to the availability of work. The San Carlos respondents did list deficiencies in education, training, or experience as important factors keeping them from looking for work. The people giving this response are indicating that jobs are not available for people with their education and experience. It should be noted that the median years of school completed by those who gave this reason for not seeking employment was nine years. This is equal to the median years of education completed for the San Carlos population. It would appear that to some extent the people listing lack of education, training, or experience for not seeking employment, actually reflect the insufficient demand for workers on the reservation.

EMPLOYMENT EXPERIENCE OF THOSE NOT USUALLY EMPLOYED

Those people who did not work at all during the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable responses were received from 171 San Carlos residents. The responses to this question are provided in Table XIV. Of those who did not work in the year prior to the survey, 87.1 percent have never worked or have not worked for five or more years.

The most important subgroup of those that did not work in the year prior to the survey is composed of those who have never worked.

More than 75 percent of those who did not work in the previous year have never worked. Included in this group are the young people who are enrolled in school and who account for 12 percent of the 129 people who did not work in the year previous to the survey. Many of the students probably will eventually enter the labor force; but this is not the case for the nonstudents who have never worked,

TABLE XIV

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	2.9
One to two years ago	4.1
Two to three years ago	2.9
Three to four years ago	2.3
Four to five years ago	0.6
Five or more years ago	11.7
Never worked	75.4
TOTAL	99.9*

N = 171

* Does not sum to 100 percent due to rounding.

TABLE XV

MARITAL STATUS OF THOSE WHO NEVER WORKED

(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	69.4	45.5
Widowed	11.8	18.2
Divorced	4.7	18.2
Separated	5.9	0.0
Never-married	7.1	18.2
Info. not available	1.2	0.0
TOTAL	100.1*	100.1*

N = 85 females; 22 males.

* Does not sum to 100 percent due to rounding.

and for those people who have not worked for five or more years. This group appears to be permanently isolated from the labor market. Their absence from the labor force cannot be explained by short-run factors. It is most likely that their lack of participation has become institutionalized. That is, it would appear that certain groups are not expected to participate in the labor market.

The distribution of those nonstudents who have never worked is presented in Table XV. Of the 107 nonstudents who have never worked, 85 are women. Only a small portion of those women who have never worked have never been married. In the case of women, marital obligations may very well discourage labor force participation.

TABLE XVI

AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

Age Group	Percent Female	Percent Male
16-19	2.4	9.1
20-29	10.6	9.1
30-39	20.0	13.6
40-49	24.7	0.0
50-59	18.8	31.8
60-69	14.1	9.1
70 and over	9.4	27.3
TOTAL	100.0	100.0

N = 85 females; 22 males.

A surprisingly large percentage of the men who never worked are married. This is contrary to expected behavior. Family obligations should encourage most males to enter the labor force at one time or another.

The age distribution of those who have never worked is presented in Table XVI. Age does not appear to be an important explanation of the failure of women to enter the labor market. Women from all age groups are among those who never worked. Age does appear to be related to the failure of men to participate. Those men who have never worked tend to be older than the median age of the San Carlos population in general. Of those males who never worked, 68 percent are 50 years or older and 27 percent are 70 years of age or older. This group of males is not likely to be enticed into the labor force after all their years of never working.

Education is also related to the failure to participate in the labor market. Of those females who have never worked, the median years of school completed is seven; for men, the median years of school completed is five years. These levels of educational attainment are below the average for the reservation as a whole. In the case of men, the relatively low level of educational attainment is related to the age distribution of those that have not worked for five or more years. The tables suggest that marital status is the most important factor discourging female participation. In the case of men, age appears to be the most important factor.

The characteristics of those who have not worked for five or more years are much the same as the characteristics of those who have never worked. Only twenty people responded that they have not worked for five or more years and none are students. Half of them are women. Almost all of the people in this group were married, as portrayed in Table XVII.

TABLE XVII

MARITAL STATUS OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	80.0	70.0
Widowed	10.0	20.0
Divorced	0.0	0.0
Separated	0.0	0.0
Never-married	10.0	10.0
TOTAL	100.0	100.0

N = 10 females; 10 males.

Most of the males not employed for five or more years were 50 years of age or over. The specific breakdown is provided in Table XVIII. The age distribution of women is more dispersed. The educational attainment of the men in this group is below the educational attainment for the San Carlos population in general. This is consistent with the age distribution of men in this group.

Those people who were not usually employed during the year prior but had worked at some time in the past were asked why they left their last job. The responses to this question are provided in

TABLE XVIII

AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	0.0
20-29	10.0	0.0
30-39	60.0	0.0
40-49	10.0	10.0
50-59	0.0	10.0
60-69	20.0	30.0
70 and over	0.0	50.0
TOTAL	100.0	100.0

N = 10 females; 10 males.

Table XIX. Most frequently, a respondent replied that he left his last employment for personal, family, or school reasons. Retirement or old age was the next most frequent response. Only 6.7 percent responded that they had left their last employment because it was a seasonal job that was complete, and only 4.4 percent responded that they had left their last job because a temporary job was completed. No one responded that he left his last employment because of slack work or business conditions. The responses to this question suggest

TABLE XIX

REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family, or school	31.1
Health	11.1
Retirement or old age	24.4
Seasonal job completed	6.7
Slack work or business conditions	0.0
Temporary nonseasonal job completed	4.4
Unsatisfactory work conditions	2.2
Other	20.0
TOTAL	99.9*

N = 45

* Does not sum to 100 percent due to rounding.

that the reasons for withdrawal are primarily related to nonmarket factors. In relatively few cases were the individuals driven out of the labor market due to cessation of employment.

UNEMPLOYMENT

The first question on the Indian Manpower Resource Study questionnaire asks the respondent about his usual activity during the year prior to the survey. This question attempts to ascertain the level of employment, labor force participation, and unemployment on the basis of the respondent's recollection of his usual activity over a one-year span. Bias can enter into the response to this question due to the interpretation of the question. That is, a person who worked two or three months may think that he worked longer or may regard two or three months work as working most of the year. Another example of difficulty in interpretation arises from the meaning of looking for work most of the year. A person may look for work one day each month. It is not clear how this person would respond to the questionnaire. Nevertheless, responses to the question should indicate labor force participation and employment reasonably well. Measures of unemployment are likely to be unusually low since it is not likely that individuals will spend most of the year in the process of searching for employment. If employment is not found in a short period of time, individuals will most likely withdraw from the labor force. This will tend to keep the unemployment rate at a low level.

An estimate of unemployment can be made on the basis of the activity during the past year. The employed include those who have a job but were not at work. The unemployed are those who looked for work. Those who are not looking for work because they believe no work is available are regarded as not being in the labor force rather than being unemployed. Of those in the labor force, 5.8 percent responded that they looked for work most of the year. Another 3.7 percent responded that they were with jobs but were not usually at work. Those people with jobs but not at work most of the year were most likely in jobs related to copper mining. The San Carlos Reservation is located in the general vicinity of Globe-Miami copper mining district. The workers in the mines in that area were on strike for most of the year. Since those people with a job but not working were idled because of strike, they are counted as being employed rather than unemployed. Thus, the total unemployment rate for the San Carlos Reservation is 5.8 percent.

The characteristics of the usually unemployed are not very different from the characteristics of the San Carlos population in general. Half of the people who reported that they were usually unemployed were in the 30-39 age group. Educational attainment does not appear to be related to unemployment status, nor does marital status. The data in the survey did not offer much insight into the factors that contribute to unemployment.

The unemployment statistics in the previous section appear to understate the extent of unemployment. The second question on the survey asked the respondents how many months they had worked during the year prior to the survey. Of the respondents, 51.3 percent replied that they did no work at all. These respondents were asked if they had looked for work during the year. The answers to this question are presented in Table XX. The table indicates that 17.4 percent of those who did not work had looked for work at some time during the year. More than half of those who looked for work would have been willing to accept either part- or full-time employment. Those people who did not look for work were asked why they did not look for work, and 5.3 percent responded that they believed no work was available. In total then, 22.4 percent of those who did not work at all during the year prior to the survey either looked for work or would have looked for work if they believed work was available. This unemployment rate contrasts sharply with the results obtained from an evaluation of the responses to question one. There appears to be a substantial reservoir of unemployed on the San Carlos Reservation.

TABLE XX

PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK

(By type of work)

Category	Percent
Full-time	4.4
Part-time	3.3
Both	9.4

N = 180

Those people seeking employment sought information about employment at various places as shown in Table XXI, but most frequently directly contacted potential employers. This is contrary to the pattern that emerged on the other two reservations in Arizona. The high propensity to contact employers may reflect the somewhat lesser degree of isolation that characterizes the San Carlos Reservation. The BIA is the next most frequently used source of information about employment opportunities. The proportion of people contacting the Arizona State Employment Service is unusually low when one considers that there is a full-time office in San Carlos, and it is operated by a well known member of the community. As expected, the use of want ads was not extensive.

TABLE XXI

SOURCES CONTACTED ABOUT WORK INFORMATION BY THOSE LOOKING FOR WORK IN PREVIOUS YEAR

Source	Percent*
Bureau of Indian Affairs	41.4
Arizona State Employment Service	31.0
Private employment service	31.0
Employer directly	51.7
Friends or relatives	27.6
Placed or answered ads	0.0
Other	17.0

N = 29

* Does not sum to 100 percent due to multiple responses.

Those people unsuccessful in looking for a job were asked why they thought they had difficulty and the responses are reported in Table XXII. Most frequently people attribute their lack of success in getting a job to the unavailability of jobs. Lack of training and education appear to be important on the San Carlos Reservation, as is transportation.

UNDEREMPLOYMENT

Low labor force participation rates and high unemployment rates provide only a partial description of the activity of the San Carlos population. Either of these measures taken by itself is misleading. Even a combination of these measures fails to describe manpower utilization on the San Carlos Reservation since they fail to fully

TABLE XXII

REASONS FOR DIFFICULTY IN FINDING A JOB BY THOSE NOT WORKING BUT LOOKING FOR WORK

Reasons	Percent*
No jobs available	43.3
Age—too old, too young	23.3
Lack necessary skill or experience	20.0
Lack of necessary education or training	26.7
Health problems, physical disability	6.7
Personal problems—police record, bad debts	0.0
Transportation	20.0

N = 30

* Does not sum to 100 percent due to multiple responses.

account for the irregularity of employment and the fact that in many cases employment is not on a full-time basis. The following section provides an overall view of the important factors combined.

On the San Carlos Reservation, 70.3 percent of the working-age women and 30.9 percent of the men did not work at all. Of those that did work, only a small proportion worked ten to twelve months. The distribution of respondents by number of months worked is presented in Table XXIII. The table shows that 14 percent of the women on the reservation work seven months or more. Men are likely to work year-round. Of the men, 34.6 percent worked ten to twelve months and an additional 7.3 percent worked seven to nine months. As shown

TABLE XXIII

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

Months Worked	Percent of Population	Percent Female	Percent Male
0	51.3	70.3	30.9
1 - 3	14.1	9.2	19.4
4 - 6	7.2	6.5	7.9
7 - 9	5.7	4.3	7.3
10 - 12	21.6	9.7	34.6
TOTAL	99.9*	100.0	100.1*

N = 185 females; 165 males.

* Does not sum to 100 percent due to rounding.

in Table XXIV, 56.2 percent of those who worked, worked more than half of the year. It should be noted that 29 percent of the people that were employed during the year were employed for three months or less. The San Carlos data suggest that employment is not likely to be year-round employment. A large number of people who work, work only a part of the year.

TABLE XXIV
DISTRIBUTION OF THOSE WHO DID SOME WORK
BY NUMBER OF MONTHS WORKED

Months Worked	Percent
1 - 3	29.0
4 - 6	14.8
7 - 9	11.8
10 - 12	44.4
TOTALS	100.0

N = 169

The people who reported that they had done some work in the year prior to the survey were asked whether they worked year-round on a seasonal basis, or irregularly. The response to this question is provided in Table XXV. As the table indicates, 52.1 percent of the people who worked responded that they worked year-round. In order for this response to be consistent with the data in Table XXIV, some of the people who worked from seven to nine months must consider their employment to be year-round. Table XXV reveals the fact that 20 percent of those who worked in the year prior to the survey are

TABLE XXV
USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	52.1
Seasonal	27.8
Irregular	20.1
TOTAL	100.0

N = 169

employed on a irregular basis. An additional 27.8 percent of those who are employed, are employed on a seasonal basis. The pattern of seasonal employment is presented in Table XXVI. Seasonal employment reaches its highest level in the summer when many of the San Carlos Apaches work in agricultural employment. This employment may be on or off the reservation. A large number of San Carlos residents work off the reservation when agricultural employment opportunities exist.

TABLE XXVI
DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed
Spring	23.1
Winter	6.2
Fall	21.5
Summer	49.2
TOTAL	100.0

N = 65

The number of months worked is related to age. Table XXVII

TABLE XXVII
AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED
(Percent)

	Months Worked				
Age Group	0	1-3	4-6	7-9	10-12
15-19	14.9	30.6	16.0	5.0	2.7
20-29	14.4	32.7	40.0	25.0	13.3
30-39	17.7	6.1	16.0	35.0	52.0
40-49	14.4	12.2	16.0	20.0	18.7
50-59	14.4	12.2	12.0	10.0	8.0
60-69	13.8	6.1	0.0	5.0	5.3
70 and over	10.5	0.0	0.0	0.0	0.0
TOTAL	100.1*	99.9*	100.0	100.0	100.0
Number in each group	181	49	25	20	75

* Does not sum to 100 percent due to rounding.

shows the relationship between age and employment. The table shows that half of the workers who worked ten to twelve months were in the 30-39 age group. Only a very small proportion of those who worked ten to twelve months were below 20 years of age or above 59 years of age. The 30-39 age group is also the most important age group for those working seven to nine months. Those people working one to six months are likely to be younger. It would appear that a large proportion of the part-year workers are young. The workers who work more than half the year tend to be in the age bracket centering around the 30-39 group.

Marital status is also related to the number of months worked in the year prior to the survey. Married females were not likely to be employed at all as shown in Table XXVIII. Most of those who are employed are not employed year-round. Married men, on the other hand, are likely to be employed; however, a surprisingly high 21.8 percent of married men reported that they did not work in the year prior to the survey. More than half of the married men worked ten months or more. Never-married females were more likely to be employed than married females as shown in Table XXIX. Only a small portion of the nonmarried females were employed ten months or more. Never-married males were less likely to be employed and less likely to be employed more than three months as compared with married males.

TABLE XXVIII

DISTRIBUTION OF MONTHS WORKED FOR MARRIED SAN CARLOS

Months Worked	Percent Female	Percent Male
0	77.4	21.8
1 - 3	4.7	9.9
4 - 6	4.7	6.9
7 - 9	2.8	9.9
10 - 12	10.4	51.5
TOTAL	100.0	100.0

N = 106 females; 101 males.

Marital commitments appear to increase the labor force participation of men and reduce the participation of women. The relationship between marital status and the number of months worked can be seen

TABLE XXIX
DISTRIBUTION OF MONTHS WORKED FOR
NEVER-MARRIED SAN CARLOS

Months Worked	Percent Female	Percent Male
0	56.5	37.8
1 - 3	15.2	42.2
4 - 6	10.9	8.9
7 - 9	6.5	2.2
10 - 12	10.9	8.9
TOTAL	100.0	100.0

N = 46 females; 45 males.

in another perspective by looking at the data presented in Table XXX. This reveals that more than 90 percent of all males who worked ten months or more are married. More than 60 percent of the women who worked ten to twelve months are married.

TABLE XXX
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	61.1	91.2
Widowed	0.0	0.0
Divorced	0.0	0.0
Separated	11.1	1.8
Never-married	27.8	7.0
TOTAL	100.0	100.0

N = 18 females; 57 males.

HOURS WORKED

When residents of the San Carlos Reservation are employed, a relatively large number of them work fewer than 40 hours per week (Table XXXI). More than 23 percent of all those who worked are employed for less than 40 hours per week when they are employed. Much of this can be attributed to personal preference and the fact that the ordinary workweek involves less than 40 hours work. Nearly 2 percent of those employed perform their tasks for more than 60

TABLE XXXI
HOURS PER WEEK USUALLY WORKED BY EMPLOYED SAN CARLOS

Hours	Percent of Total
1 - 14	5.3
15 - 29	5.3
30 - 34	5.3
35 - 39	7.6
40	67.3
41 - 48	5.3
49 - 59	2.3
60 or more	1.8
TOTAL	100.2*

N = 171
* Does not sum to 100 percent due to rounding.

hours per week, and a sizable percentage work in excess of 40 hours. Two percent are on the job from 49 to 59 hours during a given week. Another 5 percent work between 41 and 48 hours per week. Long hours are characteristic of some jobs. Many jobs requiring such long hours are likely to be found in cattle herding and related ranch or agricultural work.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

INDUSTRY EXPERIENCES

Table XXXII makes it clear that the San Carlos Apache has had limited experience in industry. The inquiry was limited to experiences of the last five years on the assumption that any attachment prior to that period would be largely lost and of little importance in work performed at present. Industries identified include both on- and off-reservation operations since some of the tribesmen commute to adjacent communities to earn a livelihood. Employment experiences by industry class were limited to 193 respondents since the remainder generally had not worked in the past five years. Additionally, it is recognized that multiple responses are possible since a particular individual may have worked in several different industry classes over the past years.

Government employment is the single most important classification for the San Carlos Indians. Work is provided at the three governmental levels, but federal agencies are by far the most important. State government is the least important. Local governmental jobs are wholly tribally-operated enterprises. Roughly 54 percent of industry experiences over the past five years are concentrated in the activities of the three levels of government. The finding of this section is highly consistent with the report of actual on-reservation employers presented early in the chapter.

Nearly 17 percent of industry experience is in the agricultural, forestry, and fisheries class. Industry experience has been principally concentrated in agricultural production due largely to the interest of

TABLE XXXII

SAN CARLOS APACHE EMPLOYMENT BY INDUSTRY CLASS

(Number and percent)

Code	Industry	Number		Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	29		
08	Forestry	3		
	Subtotal		32	16.6
	MINING			
10	Metal mining	2		
14	Mining and quarrying of nonmetallic minerals, except fuels	3		
	Subtotal		5	2.6
	CONTRACT CONSTRUCTION			
15	Building construction—general contractors	2		
16	Construction other than building—general contractors	2		
	Subtotal		4	2.1
	MANUFACTURING			
23	Apparel and other finished products made from fabrics and similar materials	1		
24	Lumber and wood products, except furniture	5		
25	Furniture and fixtures	1		
	Subtotal		7	3.6
	WHOLESALE AND RETAIL TRADE			
53	Retail trade—general merchandise	12		
55	Automotive dealers and gas service stations	3		
58	Eating and drinking places	2		
	Subtotal		17	8.8

TABLE XXXII (continued)

Code	Industry		Number	Percent of Total
	SERVICES			
72	Personal services	1		
73	Miscellaneous business services	1		
75	Auto repair, services and garages	3		
80	Medical and other health services	2		
82	Educational services	1		
86	Nonprofit membership organizations	2		
88	Private households	13		
	Subtotal		23	11.9
	GOVERNMENT			
91	Federal government	82		
92	State government	3		
93	Local government	20		
	Subtotal		105	54.4
TOTAL			193	100.0

N = 193

the people in livestock and related pursuits. Some experience in forestry is also apparent.

Services provide the basic industry experience for nearly 12 percent of the population. Some work experiences exist in auto repair and educational services, but primary activity is in domestic work in private households.

Wholesale and retail trade is a category of activity, past and current, for nearly 9 percent of the population. General merchandising work in trading posts and tribally-owned stores accounts for most of the industry attachment.

Manufacturing, mining, and contract construction industries combined account for roughly 8 percent of population industry attachments. Mining has offered limited employment to the San Carlos Indian. Contract construction is also relatively unimportant, signifying the lack of building activity on the reservation as well as a lack of involvement in off-reservation construction. Manufacturing activity on the reservation is not extensive and there appears to have been little desire for workers to penetrate off-reservation industries, as well. It is apparent that the off-reservation industries have not included

San Carlos Apaches in their activities to any significant degree. This is the case despite the mining activities in adjacent communities. A further refinement of Apache work experience is permitted by a review of occupations at which the tribal members have worked during the past five years.

OCCUPATIONAL EXPERIENCES

The *Dictionary of Occupational Titles* was utilized to categorize the nature of industry work performed by the San Carlos Apache. The occupational experiences of the reservation Indians are revealed in Table XXXIII on the basis of 193 responses.

It is obvious that services account for the majority of specific occupational involvement on the part of the Apache with nearly one-third (32.6 percent) of all experiences confined to the category. Most work has been performed in private homes as domestics. Food and beverage service in restaurants and inns also accounts for much of their experiences. Protective service refers to policemen and other security-related work. In general, the service occupations are those that require little, if any, training. The normal types of work performed by persons in the occupations mentioned depend largely on the level of economic activity prevailing in areas immediately adjacent to the reservation. A high level of economic activity enhances the Indian's ability to obtain low labor market entry types of work.

Farming and related occupations account for 18 percent of occupational experiences of the past five years. Animal farming occupations are by far the most important. Cattle raising is considered the most honorable of all work to Apache males. The desire to raise cattle is foremost in the list of occupational preferences. It is in operations related to cattle raising that the San Carlos Apache Tribe prefers to provide work opportunities for its people. Plant farming is generally related to efforts to provide feed for cattle operations. Very little activity is oriented toward commercial vegetable farming.

Nearly 17 percent of the working population, primarily men, have occupational experiences in structural work. Much of the activity in this category has been in excavating, grading, and paving of roads. Construction has also been mentioned as an occupational category in which some Indians have performed work. Such tasks as carpentry and painting are examples of experiences in this category.

Clerical and sales occupations were identified by nearly 10 percent

TABLE XXXIII
SAN CARLOS APACHE EMPLOYMENT BY OCCUPATIONAL TITLE
(Number and percent)

Code	Description		Number	Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
00, 01	Occupations in architecture and engineering	4		
07	Occupations in medicine and health	1		
09	Occupations in education	4		
11	Occupations in law and jurisprudence	2		
18	Managers and officials, not elsewhere classified	2		
19	Miscellaneous professional, technical, and managerial occupations	4		
	Subtotal		17	8.8
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	8		
21	Computing and account—recording occupations	4		
24	Miscellaneous clerical occupations	1		
28	Salesmen, salespersons—commodities	2		
29	Merchandising occupations, except salesmen	4		
	Subtotal		19	9.8
	SERVICE OCCUPATIONS			
30	Domestic service	22		
31	Food and beverage preparation and service	11		
32	Lodging and related service occupations	8		
35	Miscellaneous personal service occupations	10		
36	Apparel and furnishings service occupations	1		
37	Protective service occupations	4		
38	Building and related service occupations	7		
	Subtotal		63	32.6
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
40	Plant farming occupations	8		
41	Animal farming occupations	20		
42	Miscellaneous farming and related occupations	4		
44	Forestry occupations	3		
	Subtotal		35	18.1
	PROCESSING OCCUPATIONS			
51	Ore refining and foundry occupations	1		
	Subtotal		1	0.5

TABLE XXXIII (continued)

Code	Description	Number		Percent of Total
	MACHINE TRADE OCCUPATIONS			
60	Metal machining occupations	1		
62, 63	Mechanics and machinery repairmen	4		
66	Wood machining operations	1		
	Subtotal		6	3.1
	BENCH WORK OCCUPATIONS			
78	Occupations in fabrication and repair of textiles, leather, and related products	3		
	Subtotal		3	1.6
	STRUCTURAL WORK OCCUPATIONS			
85	Excavating, grading, paving, and related occupations	14		
86	Construction occupations, not elsewhere classified	15		
89	Structural work occupations, not elsewhere classified	3		
	Subtotal		32	16.6
	MISCELLANEOUS OCCUPATIONS			
90	Motor freight occupations	1		
91	Transportation occupations, not elsewhere classified	8		
92	Packaging and materials handling occupations	2		
93	Extraction of minerals	3		
94	Occupations in logging	2		
95	Occupations in production and distribution of utilities	1		
	Subtotal		17	8.8
TOTAL			193	100.9*

N = 193

* Does not sum to 100 percent due to rounding.

as areas of specific experience. Secretarial types of jobs are the most important, but salesmen and general merchandising occupations are included in the range of Apache experiences.

Professional, technical, and managerial occupational experiences are possessed by roughly 9 percent of the tribe. Most of such experiences are the result of tribal and other governmental operations on the reservation. For example, occupations in law refer to the tribe's own need for judges. Managers and other officials work in tribal businesses or are hired to serve in the tribal government. Occupations in medicine and education stem from the location of the Indian Hospital and public school system. The category is important as a training ground providing experiences necessary to penetrate tribal or private enterprises likely to be developed over time.

The processing, machine trade, and bench work occupations make it apparent that little occupational experience has been received in manufacturing and mining industries. Combined, only about 5 percent of the working-age population has worked at occupations in such industries.

Miscellaneous occupational experiences such as motor freight, transportation, and logging account for nearly 9 percent of the working-age population. Most opportunities in the classification are limited to males. Obviously, San Carlos Apaches have had limited occupational experiences. Experiences such as have been revealed indicate that most activity is limited to jobs normally described as labor force entry level tasks. Few have risen above the relatively unskilled occupations. Economic development of the reservation will largely depend upon measures undertaken to retrain the San Carlos Apache. Past attempts to attract industry on the basis of a large surplus of labor have been unsuccessful. Employers that may consider locating on the San Carlos Reservation must require only relatively unskilled common labor or else be prepared to undertake extensive training programs. The existence of a relatively untrained and undisciplined labor force in view of the prevailing technologies offers little incentive to employers to locate plants on the reservation. A significant investment in the human resource is required. Relocation to off-reservation areas seems imperative for development of the Apache himself. Tribesmen are currently attempting to develop their cattle industry in order to preserve tribal life on the reservation.

Location of Present Job. Apaches reporting that they usually worked during the past year were asked "Is your present (or usual) job located on your reservation?" On the basis of 168 responses, it was learned that only 16 percent work off the tribal lands. Eighty-four percent work in occupations located on the reservation. It appears that few Apaches seek work off the reservation, or they are largely unsuccessful if they do. The general way that workers learn of job opportunities is from friends or relatives. The San Carlos Apache people have few contacts with off-reservation labor markets and, as a consequence, knowledge of opportunities for which they may qualify is limited.

Source of Learning Present Job. It has already been demonstrated that industry and occupational experiences are limited. Respondents who usually worked during the past year were asked to reveal where they learned to perform their present or usual job. Table XXXIV illustrates the source of specific job training; roughly 65 percent of persons usually working were taught to perform their tasks on the job by employers. The industry classifications and occupational categories previously described make it obvious that training such as is required is minimal. Employers normally must train an employee to perform his specific job. Most work, regardless of standardization or meniality of tasks is expected to be done in a particular fashion by those in charge of operations. All workers will normally undergo some training despite previous experiences.

TABLE XXXIV

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	64.7
Government training program	19.8
Armed services	0.6
Formal education	7.8
Other	7.2
TOTAL	100.1*

N = 167

* Does not sum to 100 percent due to rounding.

Government training programs were identified by nearly 20 percent of workers as the primary source of learning their present jobs. Some responses undoubtedly were based on the fact that individuals work for government agencies and were taught their task on the job. It is suspected that many who said they had government training actually were trained by employers on the job. Nevertheless, some government training takes place as is evidenced by the existence of the Job Corps Center on the reservation.

The Armed Forces are of little value to the San Carlos Apache in specifically preparing him for civilian employment. Formal education was cited by nearly 8 percent as the source of learning present jobs. This is not unusual since secretarial and educational types of jobs are highly dependent upon formal institutional training. The acquiring of typing and shorthand skills, for example, requires an extended training period that may be too long for employers to assume.

Roughly 7 percent of workers revealed some other source of learning present jobs. It is likely that many were taught by friends and relatives. This is particularly the case in some service jobs as well as the usual agricultural tasks. Self-instruction is also highly probable for many of the jobs performed by Apache men and women.

Union organization is not a very strong factor in job-related experiences of the tribe. Approximately 2 percent of the working-age population reported union membership. Most of these belong to construction unions as laborers but as such have not been exposed to skills training in union-conducted programs. There appears in the past to have been no effort to enlist Indians in union apprenticeship programs, and the apparent lack of construction activity on the reservation is likely to preclude such an effort in the immediate future. Organizing campaigns are virtually precluded from reservation lands, and Apache integration in the general off-reservation labor market has been so slight as to practically eliminate union membership altogether.

Skills Training Without Subsequent Job Experience. Respondents were asked if they had received training for occupations, but have been unsuccessful in obtaining work for which they had been trained. On the basis of 344 responses, nearly 19 percent stated they had been trained to work at jobs, but were later unable to take advantage of the skills acquired. Several separate occupations were specified and reported in Table XXXV.

Several others, not listed in the table, responded that training was received, but failed to specify the type. Such responses are eliminated from the table, but are reflected in the percentage mentioned. It is obvious that some of the government training programs as well as college training are reflected. Training as draftsman, beautician, and tractor operator was gained in specific programs, but the nature of the reservation renders such training almost useless. The same is also true with college trained persons in nursing, business administration, and education who do not migrate to off-reservation firms to obtain jobs. It is not feasible to train persons for certain occupations unless the trainees are willing to break away from their tribal homes. Such training is likely never to be utilized because of the lack of demand for such skills on reservations. On the other hand, there are a few

TABLE XXXV
TRAINING NOT RESULTING IN JOBS
(Number)

Type of Training	Frequency
Miner	1
Welder	13
Artist	1
Carpenter	2
Housekeeper	1
Home economics	3
Drafting	1
Clerk-typist	6
Shipping clerk	2
Radar (Armed Forces)	2
Handicrafts	1
Waitress	1
Tractor operator	1
Office administration	2
Fiber glass worker	1
Beautician	1
Electrician	2
Maintenance	1
Nursing	3
Machine operator	1
Teacher	1
Mechanic	2
Policeman	1
Bus and truck driver	2
Ward attendant	1
Plumber	1
Painter	1
Cabinet maker	1
TOTAL	56

skilled persons available on the San Carlos Reservation should business development proceed to the point where they are needed. Some of the training reported by respondents merely reflected some of the past jobs held and the termination of the job left the individual without a reasonable alternative in the same type of activity. In short, knowledge of a skill is of little or no value unless an individual relocates to areas where such skills are demanded.

SOURCES OF INCOME

Knowledge of incentives to participate in the labor force as well as to remain on the reservation may be gained by a review of sources and amount of earned and unearned income. Income information also permits one to comment on the poverty level of living prevailing among reservation Indians. In this section, income data derived from the sample will be presented in the form of individual and family income, refined to reveal the sources from which it is received. Also, the data are presented by age, sex, and educational attainment level. The latter permits conjecture regarding the influence education has had on the economic well-being of the population. Data presented are on the basis of individual responses to separate questions revealing their own income by category as well as their estimates of family income. Possible weaknesses are recognized since responses were made on the basis of recall without benefit of records.

EARNED AND UNEARNED INCOME

Respondents were asked two different questions for the purpose of learning the amounts of both individual and family incomes. Persons were first asked, "What was *your* total income in 1967?" Later in the interview the individual was also asked, "What was the total monetary and non-monetary income of *your* family in 1967?" The intent of the latter question was to attempt to learn the dollar value of all income received, both real and money. The results are illustrated in Table XXXVI.

Income received by individuals considered of working-force age was not extensive. Approximately 84 percent of the 307 respondents revealed annual incomes of less than $3,000. Nearly 15 percent were without income during the calendar year. It is probable that a significant proportion were concentrated in the 16-19 age grouping and they were generally in school most of the year. The same case cannot be made for the remaining groups. Roughly 31 percent of the population received $1-499 the entire year. Median annual income for all individuals of working-force age is between $500-999. Close to 18 percent received income ranging from $1,000-1,999 and 6 percent reported receipts totalling $2,000-2,999. Incomes of over $3,000 annually may be considered as affluent in terms of on-reservation individual reference groups. Only 10 percent received $3,000-4,999 and another 6 percent reported between $5,000-9,999. Individuals with income amounting to $10,000 or more constitute only one-third of one percent.

TABLE XXXVI

INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0	14.7	N.A.	N.A.
1 - 499	30.9	33.1	33.8
500 - 999	14.7	10.0	11.4
1,000 - 1,999	17.9	16.9	16.0
2,000 - 2,999	5.9	12.1	11.4
3,000 - 4,999	9.3	17.2	15.5
5,000 - 9,999	5.9	9.7	10.5
10,000 - and over	0.3	1.0	1.4
TOTAL	100.1*	100.0	100.0

N = 307 individual; 290 unadjusted family; 219 adjusted family.

* Does not sum to 100 percent due to rounding.

Family Income. Family income is reported in two separate categories with one being adjusted, and the other not adjusted. The adjusted category takes account of the method used in sample selection. There was a greater probability that more individuals from large families than from the smaller ones were likely to appear in the sample. The adjusted column merely reflects the dropping of multiple family member response from the calculation. A single member was retained in the calculation. It is obvious that the changes observed between the adjusted and the unadjusted columns are slight.

Median family income on the San Carlos Reservation is in the $1,000-1,999 range for both categories. Median family income is higher than median individual income; the obvious reason for this is sharing among family members. It is also apparent that more than one of the family members is involved in generating the wherewithal to maintain the family unit. It is likely that the responsibility extends beyond the immediate family of husband, wife, and dependent children because of the extended family tradition.

Even with income sharing, only 1 percent of families received $10,000 or more in 1967. Roughly 10 percent fell in the $5,000-9,999 category and another 16-17 percent were in the $3,000-4,999 income grouping. Approximately 72 percent of all families received incomes of less than $3,000 in 1967. It is apparent that several members of any given family are required to work at low paying jobs on either a full-time or a seasonal basis or, at the very least, have access to sources of unearned income. Transfer payments account for a significant proportion of total Indian income received. In the absence of unearned income, the reservation dweller would experience even lower individual and family incomes than those reported in Table XXXVI.

Non-Money Income. Indians are often characterized as living in a semi-barter society. It is often stated that they supplement incomes by hunting and fishing, by growing vegetables, and by bartering. An attempt was made to determine the extent of such activity on the San Carlos Reservation. Respondents were asked: "Did you receive any non-money income last year?" An arrangement of possible replies was provided, but also the interviewee was asked if there were sources of income other than those specifically mentioned. Information received from 333 responses is illustrated in Table XXXVII.

TABLE XXXVII

NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	0.6
Homemade clothing	0.9
Goods exchanged for other goods	0.3
Other barter sources	7.8

N = 333

A few of the San Carlos Apaches raise and consume vegetables. Generally, the nearly 1 percent of the population so engaged raise corn to supplement limited incomes. In 1938, the Tribal Council authorized the assignment of two-acre plots of irrigable land to individuals for the specific purpose of encouraging subsistence gardens. It is obvious that very few currently raise vegetables to enrich and supplement their diet.

A few Indians make all or some of their own clothing. Roughly 1 percent allocate some of their time to dressmaking. The exchange of goods for other goods is an activity that seems even less popular than gardening and dressmaking. Only about one-third of one percent disclosed such an activity.

Almost 8 percent of respondents listed other barter sources as a means for obtaining non-money income. No elaboration on such activity was obtained. It may well be that hunting animals accounts for a significant proportion of some individuals' time in a year.

Despite the response that non-money income was obtained, the monetary equivalent of such income was not deemed substantial by respondents. Table XXXVIII provides the estimated value of non-money income received. Approximately 8 percent, excluding those earning nothing, valued their non-money income at less than $500 per year. Only about one-third of one percent considered their efforts added between $500-999 to family well-being. Nevertheless, efforts to generate supplementary income are not insignificant in terms of median individual or family income. It is possible that in some cases non-money income is as valuable in dollars as total money income received. It is clear that not many make an effort to generate the additional income that could be obtained through efforts at raising a garden.

TABLE XXXVIII

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	92.2
1 - 499	7.6
500 - 999	0.3
1,000 or over	0.0
TOTAL	100.1*

N = 331

* Does not sum to 100 percent due to rounding.

After considering both money and non-money income, earned or unearned, it is obvious that San Carlos Apache families are economically poor relatives to the general U. S. population. Median family income for the United States was $7,436 in 1966. In 1967, it amounted to between $1,000-1,999 for the San Carlos Apache. The smaller income received was also distributed over larger families dependent upon it for subsistence.

SOURCES OF INDIVIDUAL INCOME

The various sources of individual income are illustrated in Table XXXIX. Information contained in the table was obtained on the basis of a question asked: "What were the sources of income received by you in the last twelve months?" There were 332 separate responses to the question; however, multiple categories were identified where individuals had access to more than one source of income.

Twenty percent identified gifts from children, relatives, or churches as a source of income. The largest gifts were from churches. Churches provide a significant amount of money to the Apache people for specific purposes. Many of the gifts are earmarked for clothing expenditures for school-age children, but even so, gifts represent an important category of funds for the reservation people.

Income from the sale of handicrafts was identified by nearly 11 percent of the respondents. Reservation women produce baskets, beadwork, and other articles for distribution.

Approximately 43 percent earn income from a trade. The category includes unskilled jobs as well as those requiring more skilled performances such as carpenters, auto mechanics, and nurses.

Fifty-five percent identified unearned sources of income. These include assistance payments from the Bureau of Indian Affairs; assistance payments from other public or private sources; gifts from children, relatives, or churches; pensions, including Social Security; veterans' payments; and unemployment compensation. It is evident that unearned income is a highly important factor contributing to the ability of the San Carlos Apache to keep a reservation residence.

Approximately 14 percent had not received income from any source during the past year. On the part of some, it is possible that they are still legally defined as dependent children and, therefore, income for their support is received by others responsible for their well-being. Still others undoubtedly are dependent upon other family members and are permitted to share such income as is received.

It is significant to note that self-employed income is received by some of the Apaches. Most of this income is obtained from cattle ranching endeavors, although some is earned in other unrelated pursuits such as stores and gasoline stations.

TABLE XXXIX
SOURCES OF INDIVIDUAL INCOME

Source	Percent*
Gifts from children, relatives, or churches	20.5
Sale of handicrafts	10.5
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	6.0
Earnings from a farm, ranch, or other business	8.1
Earnings from a trade	43.4
Pensions	4.2
Assistance payments from Bureau of Indian Affairs	7.8
Assistance payments from other public or private sources	9.6
Interest or dividends on personal loans and investments	3.6
Income from royalties, leases, timber sales, annuities	4.8
Judgment or settlement funds	0.0
Sale of property	4.8
Veterans payments	1.2
Social Security	10.2
Unemployment insurance	1.8
None	13.6
Other	9.9

N = 332
* Does not sum to 100 percent because of multiple income sources.

Unemployment insurance is not extensively received by the on-reservation Indian; only 1.8 percent had income from it. It is possible that this is due largely to the seasonality of a great deal of the employment in uncovered industries. It is also possible that a great many terminate their jobs prior to qualifying for such benefits.

THOSE WITH NO INCOME

Of the forty-five residents reporting no income, thirty-two were women and thirteen were men. Those without income constitute 12.9 percent of the total population. Residents with no income account for 17.3 percent of the females and 7.9 percent of the males. Most of the males (77 percent) who reported no income were students. Most of the females who reported no income were keeping house (62.5 percent); however, going to school was also an important activity of those females who received no income.

Females with no income are dispersed over the age groups, as may be seen in Table XL. Males with no income are concentrated in the younger age groups as revealed in Table XLI; this reflects the fact that most of those with no income are students. Even in the case of women, however, those with no income tend to be younger than the San Carlos population in general. This can probably be attributed to the housekeeping responsibilities of young San Carlos married women. In general, the data suggest that the best explanation for not having income is the youthfulness of both men and women. This youthfulness results in many men being in school and many women being tied down with household duties. It should be noted that the level of education attained does not offer an explanation for the absence of income. Both males and females with no income have median education levels of nine years. This compares favorably with the reservation as a whole.

TABLE XL

AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	15.6	12.4
20-29	34.4	19.5
30-39	25.0	23.8
40-49	15.6	18.4
50-59	3.1	12.4
60-69	6.3	9.2
70 and over	0.0	4.3
TOTAL	100.0	100.0

N = 32

EARNINGS FROM A TRADE

Earnings from a trade is the most frequently mentioned source of income on the San Carlos Reservation. Of the respondents, 43.4 percent reported income from this source; forty-eight were women

TABLE XLI
AGE DISTRIBUTION OF MALES WITH NO INCOME

Age Group	Percent of Males with No Income	Percent of All Males in Age Group
16-19	69.2	15.8
20-29	15.4	18.8
30-39	0.0	24.9
40-49	7.7	12.1
50-59	7.7	12.1
60-69	0.0	9.7
70 and over	0.0	6.7
TOTAL	100.0	100.1*

N = 13
* Does not sum to 100 percent due to rounding.

and ninety-six were men (men are twice as likely to have earnings from a trade as women). It may be seen in Table XLII that earnings from a trade are most important to the 20-39 age group. This is the group that has relatively high labor force participation rates. Older females do not appear to have access to this type of income on the San Carlos Reservation. Older men, on the other hand, still participate in their trades and constitute an important source of income for family support. Teen-aged workers also supply income to families;

TABLE XLII
DISTRIBUTION OF EARNINGS FROM A TRADE
(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	12.5	13.5
20-29	29.2	24.0
30-39	29.2	33.3
40-49	18.8	13.5
50-59	10.4	8.3
60-69	0.0	5.2
70 and over	0.0	2.1
TOTAL	100.1*	99.9*

N = 48 females; 96 males.
* Does not sum to 100 percent due to rounding.

13.5 percent of teen-aged males and 12.5 percent of females report earnings from a trade. The tendency, on the part of both sexes, to withdraw from the labor force after age 40 is reflected in the table.

SELF-EMPLOYMENT AND OWNERSHIP INCOME

The respondents to the questionnaire were also asked if they had any income from self-employment activity, and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with ownership of an economic asset. For example, a person could have a proprietary interest in a business and derive income from that business but take no part in the operation of the business; such a person does not receive self-employment income, and 8.1 percent of the respondents received income from the ownership of a business. The specific breakdown is illustrated in Table XLIII. Both of these sources of income are more likely to accrue to men than women. Of the twenty-seven people reporting income from ownership, twenty are men. Of the twenty people reporting self-employment income, thirteen are men. There appears to be a tendency for income from ownership to be

TABLE XLIII

SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP

(By sex and age)

Age Group	Percent of Males with Earnings from Ownership	Percent of Males with Self-employment Income	Percent of Females with Earnings from Ownership	Percent of Females with Self-employment Income
16-19	0.0	7.7	0.0	0.0
20-29	20.0	30.8	14.3	14.3
30-39	35.0	15.4	28.6	14.3
40-49	15.0	23.1	14.3	14.3
50-59	5.0	7.7	0.0	57.1
60-69	15.0	7.7	14.3	0.0
70 and over	10.0	7.7	28.6	0.0
TOTAL	100.0	100.1*	100.1*	100.0

N = males: 20 ownership, 13 self-employment; females: 7 ownership, 7 self-employment.

* Does not sum to 100 percent due to rounding.

associated with older people. For men, 45 percent of those who had income from ownership are 40 years of age or older. Fifty-seven percent of the women who received income from ownership are 40 years of age or older. Note also that there is a heavy concentration of women receiving this source of income in the 60 and older group. Self-employed income does not appear to be related to age. Some men in each age group have self-employed income. Women in the 50-59 age group appear to have more self-employed income than women in other groups.

INCOME FROM HANDICRAFTS

The data reveal that 10.5 percent of respondents reported income from handicrafts, which is primarily a female source of income. Twenty-nine of the thirty-five people in the survey reporting this source of income are females. As shown in Table XLIV, younger females do not appear to engage in handicrafts. Handicrafts represent an important source of income to those 60 years of age and older, except that there does not appear to be any pattern between age of men and access to this source of income.

TABLE XLIV
DISTRIBUTION OF INCOME FROM HANDICRAFTS
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	3.5	16.7
20-29	13.8	16.7
30-39	24.1	16.7
40-49	17.2	16.7
50-59	17.2	16.7
60-69	20.7	16.7
70 and over	3.5	0.0
TOTAL	100.0	100.2*

N = 29 females; 6 males.
* Does not sum to 100 percent due to rounding.

ASSISTANCE PAYMENTS

Assistance payments constitute an important source of income on the San Carlos Reservation. Bureau of Indian Affairs assistance is provided to 7.8 percent of those in the survey. Assistance from other sources, primarily the State of Arizona, is provided to 9.6 percent of those in the survey. When these two sources are combined, assistance payments become one of the most frequently mentioned sources of income on the reservation. Of the twenty-six people in the survey receiving BIA assistance, eleven were women. As indicated in Table XLV, there does not appear to be any relationship between age and the female receipt of BIA assistance. Men receiving this source of income are in the younger and older age groups. Table XLVI illustrates that welfare from sources other than the BIA was received by thirty-two individuals in the survey, of whom eighteen are women. The relationship between age and the receipt of welfare benefits from sources other than the BIA is presented in Table XLVI. No clear-cut pattern emerges from this table. It is obvious that welfare benefits are provided a large segment of the population and are not highly concentrated among individuals of a particular age.

TABLE XLV
DISTRIBUTION OF INCOME FROM BIA ASSISTANCE
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	18.2	20.0
20-29	0.0	20.0
30-39	18.2	13.3
40-49	18.2	0.0
50-59	18.2	20.0
60-69	18.2	20.0
70 and over	9.1	6.7
TOTAL	100.1*	100.0

N = 11 females; 15 males.
* Does not sum to 100 percent due to rounding.

INCOME FROM SOCIAL SECURITY

Social Security payments were received by 10.2 percent of those responding to the questionnaire on the San Carlos Reservation. This was the fourth most frequently mentioned source of income. Of those receiving this source of income, sixteen were women. As shown in

TABLE XLVI
DISTRIBUTION OF INCOME FROM PUBLIC AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	16.7	21.4
20-29	11.1	14.3
30-39	16.7	7.1
40-49	27.8	14.3
50-59	11.1	21.4
60-69	16.7	7.1
70 and over	0.0	14.3
TOTAL	100.1*	99.9*

N = 18 females; 14 males.
* Does not sum to 100 percent due to rounding.

Tables XLVII and XLVIII, those individuals who received Social Security tended to be in the older age groups. This is especially true for males; there is more dispersion in age of females who receive this income. This difference in age distribution can be attributed to the different circumstances under which women can receive Social Security payments. Most of the male recipients would appear to be

TABLE XLVII
DISTRIBUTION OF INCOME FROM SOCIAL SECURITY
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	6.3	5.6
20-29	0.0	5.6
30-39	12.5	0.0
40-49	18.8	0.0
50-59	25.0	11.1
60-69	12.5	38.9
70 and over	25.0	38.9
TOTAL	100.1*	100.1*

N = 16 females; 18 males.
* Does not sum to 100 percent due to rounding.

people who are using Social Security as a source of retirement income. The proportion of females 60 years or over who receive Social Security payments is 13 percent. The relatively small proportion of the elderly receiving these payments reflects the isolation of the San Carlos economy from the Social Security system.

TABLE XLVIII
PERCENTAGE OF SAN CARLOS INDIANS RECEIVING
SOCIAL SECURITY BENEFITS
(Selected age groups)

Age Group	Percent Females in Each Group	Percent Males in Each Group
All age groups	8.7	10.9
60-69	11.8	43.8
70 and over	50.0	63.6

N = 16 females; 18 males.

UNEMPLOYMENT INSURANCE

Unemployment insurance is not an important source of income on the San Carlos Reservation. Only 1.8 percent of those in the survey reported income from this source. The reason that so few people receive unemployment insurance payments even though unemployment is widespread is fairly obvious. Many of the unemployed have not worked in industries covered by the unemployment insurance system. In addition many of the unemployed fail to work the number of weeks necessary to qualify for benefits. Others may have exhausted benefits under the law. The relative unimportance of this source of income coupled with the relative unimportance of Social Security payments demonstrates that conventional social insurance schemes are not well adapted to Indian reservation life. It is not surprising that Indians have maintained some of their traditional forms of social insurance.

OTHER SOURCES OF INCOME

Six additional income categories were probed through the Indian Manpower Resource Study questionnaire. One of these deserves particular comment: of those responding to the questionnaire, 20.5 percent reported gifts as a source of income. This was the second most important source of individual income on the San Carlos Reservation. Of the sixty-eight people reporting income from gifts, fifty-one were women. There did not appear to be any relationship between age and this income. The importance of gifts as a source of income reflects the income sharing on the San Carlos Reservation. Agricultural allotments were received by 4.8 percent of those responding to the questionnaire. This source of income may reflect the importance of cooperative agricultural operations on the San Carlos Reservation.

MOST FREQUENTLY MENTIONED SOURCES

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions it. The most frequently mentioned income sources for female age groups is presented in Table XLIX. Gifts appear to be an important source of income for all but one age group. Earnings from a trade

TABLE XLIX

MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES

(By age)

Age Group	Most Frequently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Gifts	34.8
	Earnings from a trade	26.1
20-29	Earnings from a trade	31.8
30-39	Earnings from a trade	31.8
	Gifts	25.0
40-49	Gifts	38.2
	Earnings from a trade	26.5
50-59	Gifts	26.1
	Handicrafts	21.8
	Earnings from a trade	21.8
	Other	21.8
60-69	Handicrafts	35.3
	Gifts	23.5
70 and over	Social Security benefits	50.0
	Gifts	37.5

* Does not sum to 100 percent due to multiple responses.

is the most important source for younger age groups. Handicraft income becomes more important to older San Carlos females.

The most frequently mentioned income sources for male age groups is presented in Table L. As can be seen the pattern for men is more simple than that for women. Earnings from a trade is the most important source for all groups below 60 years of age. Social Security payments are important to those 60 years of age or over.

TABLE L
MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES
(By age)

Age Group	Most Frequently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Earnings from a trade	50.0
20-29	Earnings from a trade	74.2
30-39	Earnings from a trade	78.1
40-49	Earnings from a trade	65.0
50-59	Earnings from a trade	40.0
60-69	Social Security benefits	43.8
	Earnings from a trade	31.3
70 and over	Social Security benefits	63.6

* Does not sum to 100 percent due to multiple responses.

INCOME BY EDUCATION AND SEX

The level of educational attainment is often taken as an indicator of one's ability to compete for scarce jobs. In addition, the level of earnings obtained by those with higher educational achievements can serve as an incentive for the young to pursue more education than that obtained by the previous generation. Table LI provides data on income received by sex and educational attainment levels. Data contained in the table are on the basis of 165 male and 185 female responses. The San Carlos Apache was often reluctant to reveal information pertaining to income, which is reflected in the information not available category. Nearly one-fourth of the total refused to provide income data. The discussion that follows in this section is based on the information provided by cooperating interviewees.

It is clear from Table LI that approximately 77 percent of females and 70 percent of males receive incomes of less than $3,000 per year.

Nearly one-half of all women receive less than $500 annually. Roughly 17 percent of females receive no income, and about 8 percent of males report no income. Thirty-two percent of women also revealed incomes of $1-499, and 22 percent of men fall in the same income category. It is obvious that opportunities for both sexes are limited, but more so for women than men. Female workers are largely concentrated in the lower-income categories, and males fare better relatively at higher levels than do females.

It is important to observe that female high school graduates fare as well as their male counterparts. While it is apparent that only male high school graduates earn $10,000 or more per year, females have greater success in the $5,000-9,999 category. This fact can be largely attributed to the types of reservation work available to women in the Indian Hospital, public schools, and Bureau of Indian Affairs. Men obtain more jobs in the $3,000-4,999 category than do women, but when the two sexes with high school diplomas are compared in all the income categories, women do well.

Men with college training often do well relative to the rest of the population; 2.4 percent earn in the $5,000-9,999 category. However, college does not automatically guarantee higher earnings on the reservation as is evidenced by some college-trained men earning in the $500-999 (0.6 percent) and $1,000-1,999 (0.6 percent) categories. The level of income of Indians with some college training appears to depend largely upon whether their skills are in demand by government agencies on the reservation.

Men seem to fare about equally well with eighth grade educations or more. There may be a slight advantage for those with higher educational attainments, but the existing reservation jobs do not currently prove the case. The advantages of education for on-reservation Indians may become more apparent as older men are replaced by younger ones. However, it appears that educational attainments rise at a more rapid rate than jobs are made available. The same result seems probable among women, too. If the observation just made has any validity at all, at least two possible consequences may result. Indeed, they seem inevitable.

First, it is possible that quit-rates (the rates at which jobs are quit per hundred) among Indians on the reservation will be high. This is likely to occur particularly when the individual can name his successor. Such a situation would permit a father to step aside in favor of a son and do so without a second consideration since the

TABLE LI
INCOME BY EDUCATION AND SEX
(Percent)

		Income									
Education	Sex	$ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.2
	F	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.5	1.6
1	M	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
	F	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
2	M	0.0	0.6	1.2	0.6	0.0	0.6	0.6	0.0	0.6	4.2
	F	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
3	M	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
	F	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
4	M	0.0	0.0	1.2	0.0	0.6	0.0	0.0	0.0	0.0	1.8
	F	0.5	1.6	0.5	0.5	0.5	0.0	0.0	0.0	0.5	4.1
5	M	0.0	1.2	0.6	2.4	0.0	0.0	0.0	0.0	0.6	4.8
	F	0.5	2.2	0.5	0.5	0.0	0.0	0.0	0.0	1.1	4.8
6	M	0.6	0.0	0.6	1.2	0.6	1.8	0.6	0.0	0.0	5.4
	F	0.0	2.2	2.7	2.7	0.0	0.0	0.0	0.0	1.1	8.7
7	M	0.6	1.2	0.0	1.2	0.0	0.0	0.6	0.0	0.6	4.2
	F	1.1	1.6	1.1	0.0	0.5	0.0	0.0	0.0	2.2	6.5
8	M	0.6	3.0	1.2	3.6	1.2	2.4	0.6	0.0	1.2	13.8
	F	3.8	5.4	1.6	1.1	1.6	0.0	0.0	0.0	1.1	14.6
9	M	3.6	4.2	2.4	3.0	1.8	1.8	1.2	0.0	0.0	18.0
	F	2.7	2.2	2.2	0.5	0.5	0.5	0.5	0.0	1.6	10.7
10	M	1.2	5.5	1.2	2.4	1.2	3.6	0.6	0.0	1.2	16.9
	F	4.9	7.0	0.0	1.6	0.5	0.5	0.5	0.0	3.8	18.8
11	M	0.6	4.2	2.4	1.2	0.0	1.8	0.0	0.0	1.2	11.4
	F	2.2	4.3	1.1	0.5	0.0	0.5	0.0	0.0	1.1	9.7
12	M	0.0	1.2	1.2	0.6	0.6	3.0	1.2	0.6	0.0	8.4
	F	0.5	2.7	1.1	2.7	0.0	1.1	1.6	0.0	2.7	12.4
13	M	0.0	0.0	0.6	0.6	0.0	0.0	1.2	0.0	0.0	2.4
	F	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.1
14	M	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15+	M	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Info. not available	M	0.0	0.6	1.2	0.6	0.0	0.0	0.0	0.0	0.6	3.0
	F	0.0	0.5	0.0	1.1	0.5	0.0	0.0	0.0	0.5	2.7
TOTAL	M	7.8	21.7	13.8	20.4	6.0	15.0	7.8	0.6	6.0	99.1*
	F	17.3	32.0	11.9	11.2	4.1	2.6	2.6	0.0	17.8	99.5*

N = 165 males; 185 females.

* Does not sum to 100 percent due to rounding.

system of income sharing would not invoke a large penalty upon the individual for such action. It should also be recognized that the same system of income sharing is likely to generate high quit-rates because of the necessity to relinquish earnings in favor of the larger group.

Second, the accumulating pool of surplus labor with more education than previous generations is likely to result in disincentives for Indian youth to continue to seek higher levels of education. Most of the jobs available on the reservation may appear to the young to be held by persons with lesser educational qualifications. It may be that their only hope is a greater attrition rate.

Both situations just mentioned, if realized, can result in a reservation population with diminishing abilities to compete for scarce jobs on an open labor market. Such a situation may well occur among both sexes, but it is more likely with men than women. The large non-response rate among women may conceal a tendency for women to fare better than is revealed in Table LI. Alleviation of the economic situation for both sexes may ultimately depend upon the willingness of a proportion of the population to leave the reservation to work.

CONSUMPTION PATTERNS

Patterns of consumption expenditures provide insights into possibilities for training Indians to operate on-reservation businesses. Data regarding expenditures are analyzed by income category of family, items on which income is spent, and where money is spent. Expenditures also provide insights into family accessibility to transportation. Families that expend a portion of their income on automobile repairs are likely to have some means of commuting to off-reservation places to either work or look for work.

Respondents were asked separate questions regarding where their families purchased groceries, automobile repairs, and clothing. It was of intrest to learn if they usually purchased such items on or off the reservation, part on and part off, or did not allocate a portion of income to such items at all.

PURCHASE OF GOODS AND SERVICES

Table LII reveals the places where the San Carlos Apache usually purchase their goods and services. The three categories combined tend to give insights into the extent of travel to off-reservation places for family expenditures.

TABLE LII
WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES
(Percent)

Place	Item Groceries	 Automobile Repairs	 Clothing
On-reservation	47.6	4.4	31.2
Off-reservation	12.5	26.4	19.9
Half and half	39.9	11.1	48.3
Do not know		0.6	0.6
None		57.5	
TOTAL	100.0	100.0	100.0

N = groceries 343; automobile repairs 341; clothing 346.

Grocery items are usually purchased on the reservation by less than one-half (47.5 percent) of families. Alternatively, off-reservation stores as the usual place of purchase was revealed by only 12.5 percent of families. A high percentage (39.9) frequent both on- and off-reservation about equally. It may well be that some Indians find that the stores in adjacent areas have a wider range of goods from which to select. Also, it may well be that some Apaches live in areas that are closer to neighboring off-reservation communities than to Indian villages and towns with trading posts. Some may find prices more acceptable in supermarkets as opposed to the general merchandising stores on Indian property. A large number of San Carlos Apaches buy a portion of their grocery items in non-Indian towns.

Automobile repairs provide a rough indication regarding the extent of car or truck ownership. Roughly 57 percent of families do not purchase auto repairs. It is likely that they do not own cars or trucks. If such is the case then access to neighboring areas to seek jobs or to work is limited. Only 4 percent of families provide their repair needs from reservation garages. Twenty-six percent usually take care of their needs at off-reservation service stations or garages and 11 percent obtain needed services from both town and reservation sources. The lack of use of on-reservation servicemen may stem from quality of work, or it may mean that there is a shortage of such skills on the reservation.

Despite the lack of car or truck ownership, the Apache seems to find a means of visiting off-reservation places as is evidenced by the source of grocery purchases. Undoubtedly, there is significant reliance on friends and relatives for transportation.

Clothing purchases are likely to be made both on- and off-reservation. Thirty-one percent of families usually purchase such items as are bought from the on-reservation general stores. Only 20 percent of families usually patronize off-reservation clothing merchants, but another 48 percent shop about equally in reservation general stores and off-reservation clothing stores. It is likely that nonreservation stores offer a wider variety for selection than the on-reservation general stores, which stock only the more popular items demanded. The availability of credit terms may also influence the Indian in making a choice between stores in his own community and those in adjacent towns.

METHOD OF PAYMENT

Lower-income families are likely to have considerable dependence upon credit arrangements when purchasing most items in their market baskets. Once low-income families are extended credit, particularly for groceries, their freedom of choice in store selection becomes more limited. Credit is more likely to be available from stores located on Indian land than from merchants in nearby towns. Table LIII provides insights into the range of choice facing Indian consumers.

Credit purchases are important in every category of consumer expenditures. Grocery credit is the most important because of the continuing nature of needs. Seventy-seven percent of families usually provide their grocery needs on a credit basis. Only 22 percent usually pay cash for groceries at the time of purchase. It is more likely

TABLE LIII

METHOD OF PAYING FOR FAMILY PURCHASES

(Percent)

	Item		
Method of Payment	Groceries	Automobile Repairs	Clothing
Cash	22.2	52.8	33.6
Credit	77.0	40.3	65.8
Oil company credit card		2.8	
Do not know	0.9	4.2	0.6
TOTAL	100.1*	100.1*	100.0

N = groceries 343; automobile repairs 144; clothing 345.

* Does not sum to 100 percent due to rounding.

that cash is required at off-reservation markets than at trading posts in Indian communities. Credit is difficult for Apaches to establish in nonreservation stores and it is probable that the low-income families find themselves restricted largely to trading posts to provide for their consumer needs.

Slightly more than one-half (52.8 percent) of families purchasing automobile repairs do so on a cash basis. Nearly 40 percent, however, have access to repairmen that extend credit when work is performed. Only 3 percent have access to oil company credit cards to provide for credit needs. The Apache obviously obtains credit from gas stations and garages in neighboring non-Indian areas.

It is possible that on-reservation purchases are largely made by families in the lowest-income categories because of the greater need for credit to consumate transactions. Families with the lowest incomes are not as likely to qualify for credit in nonreservation stores as from trading post merchants on Indian land. For this reason, we now turn to an analysis of cash and credit payments by family income category.

METHOD OF PAYMENT BY FAMILY INCOME LEVEL

Table LIV provides additional information regarding the nature of cash and credit purchases by family income level. Regarding grocery purchases, credit is an important element in providing needs regardless of income level. Families receiving $10,000 per year or more make use of credit as much as families in the $500-999 category. Credit obviously is not as important to the groups in the higher brackets as it is to families at the lowest levels. However, those with the larger incomes may not receive funds on a regular basis. Income received may be irregular over the year and correspond to periods when cattle sales are made; credit terms would then be highly important during the interim period. Lower-income groups receive funds on a regular basis, but the total received is not sufficient to permit spreading cash expenditures over the entire period. The group receiving less than $500 annually may well depend on credit to allocate their funds for subsistence as opposed to expenditures on less essential items.

The $5,000-9,999 category revealed the highest incidence of credit use followed by the less than $500 and $2,000-2,999 family income brackets. Grocery credit is important for all groups. Freedom of

TABLE LIV

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	18.5	81.5	61.9	38.1	24.5	75.5
500 - 999	33.3	66.7	50.0	50.0	34.5	65.5
1,000 - 1999	30.6	69.4	62.5	37.5	40.8	59.2
2,000 - 2,999	18.2	81.8	28.6	71.4	26.5	73.5
3,000 - 4,999	24.0	76.0	60.6	39.4	48.0	52.0
5,000 - 9,999	17.9	82.1	66.7	33.3	32.1	67.9
10,000 and over	33.3	66.7	33.3	66.7	33.3	66.7
Info. not avail.	21.1	79.0	47.8	52.2	36.4	63.6

N = groceries 341; automobile repairs 138; clothing 343.
Note: Summation is horizontally by good or service in each income category.

choice in the selection of grocery stores appears limited. Some cash purchases are made by all groups, but the likelihood of dependence on particular stores is widespread.

Automobile Repairs. Automobile repairs provide a rough indicator regarding the ability of families in the various income groups to commute from area to area both on and off the reservation. Lower-income groups have greater restrictions on them than others because of the inability to purchase transportation and then to maintain such machines as are eventually acquired. The higher-income families are more likely to have the wherewithal to purchase later model automobiles and trucks that require lesser outlays for maintenance.

Families with incomes of less than $500 per year are likely to possess machines requiring more frequent repairs, but at the same time cash outlays are often needed because of the inability to honor relatively large bills incurred. Those receiving $2,000-2,999 annually appear to make greater use of credit, and this is possible because credit is more available to them than to lower-income categories. This group is also more likely to have a greater number of relatively old models of automobiles requiring constant maintenance.

Families receiving $3,000-9,999 utilize credit for maintenance purposes, but probably have later model cars, which require fewer outlays. Those earning $10,000 or more annually have greater access to credit from all sources. They are more likely to hold gasoline credit cards and can, therefore, charge most repairs needed on their vehicles. Their needs are likely to be smaller than most other groups because of the lateness of models.

Clothing Purchases. Credit terms for clothing appear to be demanded about as extensively as for grocery purchases. Every income group requires credit for over one-half of clothing transactions. The necessity for such terms is more pressing for the lower-income categories than others, but is needed by all groups. The under $500 per year bracket makes fewer cash purchases than any other single group. The need for credit largely depends on family size, and some of the middle-income groups may make relatively small cash outlays for clothing because more members must be provided with clothes.

It seems apparent that all the income groups utilize credit arrangements extensively, which restricts choice of retail outlet significantly. Lower-income groups have little choice in deciding where to spend their limited incomes. It seems appropriate to assert that credit is utilized by all groups to the limits allowed by merchants.

EXPENDITURE PATTERNS

It may be readily observed that only 23 percent of San Carlos Apache families provide their grocery needs on a cash basis. Seventy-seven percent make use of credit for such purchases. Only a third (33.7 percent) of the families supply their clothing needs by paying cash, while two-thirds resort to credit for those items that are bought. However, over one-half (5[illegible].1 percent) of families that must use automobile repair services do so on a cash basis.

The concentration of families in the lower-income categories reveals the importance of cash or credit by percent of the total using the particular method of payment. Cash outlays for the three categories of items are generally concentrated in three groups. The $0-499, $1,000-1,999, and $3,000-4,999 income levels generally account for the greatest percentages of families paying cash for purchases. One exception is in the $5,000-9,999 income group, which accounts for 18 percent of automobile repairs by use of cash. This latter income group is exceeded in importance only by the $3,000-4,999 group.

More families purchasing groceries fall in the less than $500 group than any other group, and they account for 29 percent of all families buying groceries on credit. The next largest group is the $3,000-4,999 group. Their importance in the use of both cash and credit for

TABLE LV

METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL GROCERIES, AUTO REPAIRS, AND CLOTHING

(Percent)

	Method of Payment											
	Cash						Credit					
	Percent of Total Purchasing Item			Percent of Total Paying Cash			Percent of Total Purchasing Item			Percent of Total Using Credit		
Family Income	(1)Gro.	(2)Auto	(3)Cloth.	(4)Gro.	(5)Auto	(6)Cloth.	(1)Gro.	(2)Auto	(3)Cloth.	(7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	5.0	9.4	6.7	22.1	17.1	19.8	22.6	6.5	21.0	29.2	14.5	31.7
500 - 999	2.6	2.2	2.9	11.7	4.0	8.6	5.3	2.2	5.5	6.8	4.8	8.4
1,000 - 1,999	4.4	7.3	5.8	19.5	13.2	17.2	10.0	4.4	8.5	12.9	9.7	12.8
2,000 - 2,999	1.8	2.9	2.6	7.8	5.3	7.8	7.9	7.3	7.3	10.2	16.1	11.0
3,000 - 4,999	3.5	14.5	7.0	15.6	26.3	20.7	11.1	9.4	7.6	14.4	21.0	11.5
5,000 - 9,999	1.5	10.1	2.6	6.5	18.4	7.8	6.7	5.1	5.5	8.7	11.3	8.4
10,000 or more	0.3	0.7	0.3	1.3	1.3	0.9	0.6	1.5	0.6	0.8	3.2	0.9
Info. not avail.	3.5	8.0	5.8	15.6	14.5	17.2	13.2	8.7	10.2	17.1	19.4	15.4
TOTAL	22.6	55.1	33.7	100.1*	100.1*	100.0	77.4	45.1	66.2	100.1*	100.0	100.1*

N = (1) Groceries = 341
(4) Cash = 77
(7) Credit = 264
(2) Auto repairs = 138
(5) Cash = 76
(8) Credit = 62
(3) Clothing = 343
(6) Cash = 116
(9) Credit = 227

* Does not sum to 100 percent due to rounding.

grocery purchases reflects the concentration of Indian families in these income categories.

Even though the families with less than $500 annual income are most numerous, they are not the major demanders of automobile repairs. The ownership of automobiles requiring considerable maintenance is more likely to be concentrated among families in the $2,000-4,999 income range.

Clothing needs requiring use of credit are again more pressing in the lowest-income category. Thirty-two percent of all clothing credit extended is to this group. Less than 1 percent of clothing credit is extended to the highest-income group.

Approximately 28 percent of families purchasing groceries on either a cash or credit basis receive less than $500 annually. However, this income group accounts for only 16 percent of those requiring automobile repairs. Twenty-four percent of families requiring automobile maintenance are in the $3,000-4,999 income group. Roughly one-half of San Carlos Apache families purchasing clothing items fall in the less than $500 annual income category. It is obvious that the bulk of family income is dissipated by this group in providing basic subsistence goods. The rural location of these families places them at a distinct disadvantage in the labor market because of a lack of means to commute back and forth to jobs. They are also handicapped in terms of consumer purchases because of a lack of monetary ability to provide for their needs. They are likely to pay higher prices for all items purchased because of the inability to select stores that have lower prices. The same is true with families in the $1,000-1,999 and $3,000-4,999 income categories.

These groups may be in need of consumer education programs, but the greater need is for a more adequate level of income, which, in turn, will provide greater freedom of choice. The need for job development is reflected in the consumption patterns of families. Consumer education programs, in the absence of measures taken to increase income, will probably not render satisfactory results.

NOTES

[1] Information in introductory section describing the San Carlos Reservation is not original. We are indebted to Stanford Research Institute, *The San Carlos Apache Indian Reservation,* Phoenix, Arizona, 1955.

Chapter 4

The Acoma Reservation

The Acoma Reservation is populated by Pueblo Indians and is purported to be the oldest inhabited settlement in the United States.[1] The reservation takes its name from the old village of Acoma, known as Sky City, and located on a rock mesa 357 feet high.[2] The village was originally constructed for purposes of defense and is still important for religious ceremonies held there periodically. The reservation is located approximately 84 miles west of Albuquerque, New Mexico. In recent years the villages of Acomita and McCartys were constructed as summer villages, which permit families to move closer to the lands they cultivate or on which they graze herds. An inadequate water supply in old Acoma was another factor leading to the establishment of the new villages. All families, however, continue to maintain houses on the high mesa of Acoma.

The Acoma Indians have long been agriculturally oriented with major emphasis on sheep herding and farming. However, they also cultivate wheat, beans, and alfalfa on irrigated land. In addition to sheep, stock raising also includes goats, horses, donkeys, and cattle. Agricultural and stock raising activities are still considered important, but the lack of good land management practices has depleted the soil rendering such endeavors less productive than in the past. As a direct result many families have abandoned agricultural activities.

Pottery is an important handicraft among some of the women, but such an endeavor receives far less attention at present than was the case in earlier years. The lack of market outlets may be a major factor in the decline of this handicraft industry.

Relative geographic stability of the Acoma people over the years in an agricultural society has contributed to their attitudes toward work. Years of experience in tending flocks and cultivating land has instilled into the Indians the necessity to work for one's keep. Idleness is not encouraged among the people. The basic economic unit appears to be moving toward that which prevails in the general society in the sense that major responsibility is shifting from the communal clan orientation to that of the immediate family. The immediate families consisting of husband, wife, and children are becoming more mobile than their ancestors and for economic reasons are reaching to outlying parts of the reservation and are leaving it.

The total population of the Acoma Reservation as of April, 1968 was estimated at 1,654; of this number, 910 persons age 16 or over are listed on the tribal roll. The actual sample size used was 240.

This analysis deals with on-reservation nonfarm employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

ON-RESERVATION NONFARM EMPLOYERS

As noted above, the Acoma Pueblo Indians have been traditionally oriented toward agricultural pursuits. Nonagricultural work available on the reservation is limited. Table I shows that there are only thirty-nine nonfarm jobs available to the Indians on tribal property. This lack of reservation opportunity stems in part from the location

TABLE I

ACOMA RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed
Acoma Tribe	12
Community Action Program	17
Bureau of Indian Affairs Day School	7
Public Health Service Clinic	3
TOTAL	39

of the Bureau of Indian Affairs office in Albuquerque, New Mexico. The Arizona reservations have the federal agency physically located on Indian land, and the agency is an important source of jobs. In New Mexico, however, the BIA operates a day school on the reservation and this provides some employment, but not to the extent that the full agency operating on the reservation might provide. It is obvious that the Indians must either resort to agricultural pursuits on essentially unproductive land or commute to distant places to work.

The Community Action Program is the largest nonfarm employer on the tribally held land and, even so, employs only seventeen Indians. Because of the industrious nature of the Acoma people, the low number of job opportunities may be generating a trend toward disintegration of the ancient family orientations. The assimilation of the Acoma into the larger society may be just over the horizon. Such absorption into the general population depends upon the ability of the people to compete in an unsheltered labor market. Their ability to compete largely depends upon investments made in the human resource both in the past and currently. Human resource characteristics of the on-reservation population reveal the extent and nature of the Acoma manpower potential.

CHARACTERISTICS OF THE MANPOWER RESOURCE

AGE AND SEX

Table II classifies the Acoma Reservation inhabitants aged 16 and over by age and sex. Approximately 55 percent of the working-age total are women and 45 percent are males. Women outnumber men in every ten-year group under 60 years of age. Men outnumber women only in the groups over 60. It is possible that men under 65 have left the reservation for work. In some cases, entire families may have relocated, but it is more likely that because of unstable employment women may remain on the reservation to care for the young. The 744 children under 16 years of age accounts for the difference between the 910 estimated population of working-force age and the 1,654 total population.

Roughly 13 percent of the total population sampled are in the 16-19 age category. Some of these are still enrolled in high school, but others are currently available for full-time working force activity. Teen-age girls account for a larger proportion (7.5 percent) of the population than do males (5.8 percent).

TABLE II

ACOMA POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	13.5	7.5	13.1	5.8
20-29	20.3	11.3	20.6	9.2
30-39	19.6	10.8	19.6	8.8
40-49	11.3	6.3	10.3	4.6
50-59	18.8	10.4	13.1	5.8
60-69	9.0	5.0	15.0	6.7
70-79	4.5	2.5	6.5	2.9
80-89	3.0	1.7	0.9	0.4
90 or over	0.0	0.0	0.9	0.4
TOTAL	100.0	55.5*	100.0	44.6*

N = 133 females; 107 males.

* The two categories combined do not sum to 100 percent due to rounding.

It is apparent that the largest ten-year age group is the 20-29 category. Females outnumber males and account for 11.3 percent of the total population whereas males account for 9.2 percent. Males in their twenties account for nearly 21 percent of all working-age men and females of the same age constitute 20 percent of total reservation women. The on-reservation population obviously includes enough youth to provide labor services to a wide variety of economic operations. The supply of both young males and females indicates that little difficulty would be entailed in recruiting for reservation employment.

The 30-39 age category contains nearly 20 percent of the total working-force population. Over one-half (10.8 percent) of the total are women. In turn, male and female members of this group each account for about 20 percent of their gender totals. Persons assumed to be most responsible regarding attachment to the labor force and job performance are in this group. Additionally, the weight of family responsibilities normally is heaviest on individuals in their thirties.

Acoma Indians aged 40-49 are not as numerous as the younger categories presented in Table II, but still provide a significant proportion of working-age persons. Females account for 6 percent of the total working-age population or 11 percent of tribal women. Males in this age bracket constitute 5 percent of the total population or 10 percent of tribal men.

The tribal working-age population in their 50's is relatively larger than in the 40-49 bracket. Again, women outnumber the men and females represent nearly 19 percent of all women while men represent 13 percent of all men.

The 60-69 age category is usually considered the upper range of economically productive years. This is not always the case among Indians, and nearly 12 percent of the Acoma working-age population is in this age group. Females of this age represent 5 percent of the tribal population, and males represent nearly 7 percent. Age brackets above 70 have fewer individuals than the others. Persons of such age are not considered important in labor force activity.

In summary, it is found that more Acoma women than men could be involved in labor force activity on the reservation. Since a significant portion of the population is young, there is an initial expectation that labor force participation would be high if job opportunities were available. It is assumed that employers would not recruit persons above age 65. This is particularly the case when there is a surplus pool of younger persons seeking work.

FAMILY CHARACTERISTICS

Marital status is often an indicator of the need for individuals to participate in labor force activities. Married males are expected to take on responsibilities for supporting families. In recent years, greater opportunities have been afforded women to provide the same function. Their orientation toward work has, however, usually been

TABLE III

MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	58.4
Widowed	7.4
Divorced	0.0
Separated	1.3
Never-married	32.9
TOTAL	100.0

N = 231

of a supplementary nature. Table III gives the marital status of the Acoma population on the basis of 231 responses.

Marital Status. Fifty-eight percent of the working-age population are married. Perhaps the youthfulness and the fact that women outnumber men in many age brackets may account for the relatively high percentage (32.9) of Acomas who have never married; the percentage could also reflect the cultural orientation toward the immediate family as the basic economic unit. In addition, some persons regardless of age may not have gained the ability to support a family. This may be more the case among teen-age persons than among other age groups. It seems reasonable that the lack of economic opportunity coupled with imbalance of the sexes provide the best explanations for the relatively low marriage rate among the working-age groups.

The absence of divorce reflects the influence of the Roman Catholic Church. Only 1.3 percent of the population are separated. This record implies high stability of family life on the reservation. The geographic stability of the tribe over the past century and the church influence produces an intolerance for broken families. Widowed individuals account for 7.4 percent of the population and as generally expected they are most numerous among the elderly.

Number of Children. The number of children per family is indicative of economic incentives to seek employment, and also accounts

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	24.7
One	12.1
Two	12.6
Three	7.9
Four	9.8
Five	8.8
Six	6.1
Seven	7.0
Eight or more	11.2
TOTAL	100.2*

N = 215

* Does not sum to 100 percent due to rounding.

for the financial burdens involved in supporting dependents. Table IV provides insights into the Acoma family size. It can be surmised that a significant proportion of the children of working-age parents are dependent.

The median number of children reported by respondents is three. It is apparent that a significant number of respondents have large numbers of children. Approximately 11 percent of respondents reported eight or more; 7 percent reported seven; 6 percent, six; 9 percent, five; 10 percent, four; 8 percent, three. Large families are an important feature among the Acoma Indians. If support for large family units is a pressure, then the Acoma people may well be anxious to participate in the labor force.

TABLE V

NUMBER OF CHILDREN BY MARITAL STATUS

(Percent)

Marital Status		Number of Children									Info. not Avail.	Total
		1	2	3	4	5	6	7	8+	0		
Married	(1)	13.3	16.3	11.1	12.6	11.9	8.9	7.4	16.3	1.5	0.7	100.0
	(2)	7.5	9.2	6.3	7.1	6.7	5.0	4.2	9.2	0.8	0.4	56.4
Widowed	(1)	23.5	11.8	5.9	11.8	17.7	5.9	5.9	11.8	0.0	5.9	100.2*
	(2)	1.7	0.8	0.4	0.8	1.3	0.4	0.4	0.8	0.0	0.4	7.0
Divorced	(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Separated	(1)	0.0	33.3	33.3	0.0	0.0	0.0	33.3	0.0	0.0	0.0	99.9*
	(2)	0.0	0.4	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.2
Never-married	(1)	5.3	2.6	0.0	2.6	0.0	0.0	2.6	0.0	67.1	19.7	100.0
	(2)	1.7	0.8	0.0	0.8	0.0	0.0	0.8	0.0	21.3	6.3	31.7
Info. not avail.	(1)	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.8
TOTAL	(2)	10.9	11.2	7.1	8.7	8.0	5.4	9.6	10.0	22.1	7.1	100.1*

N = 240

(1) = Percent of total in each marital status category.

(2) = Percent of total responses.

* Does not sum to 100 percent due to rounding.

Table V provides data regarding the number of children by marital status of the respondent. Included are responses from the never-married group, which constitutes one-third of the total working-age population. Table V permits a calculation of median number of children for married respondents without including single persons unless they reported having children.

The median number of children reported by respondents in all marital groups is six. This higher median is obtained by eliminating the influence of the never-married category unless they reported having children. The median number of children reported by only married persons is four. In the married category, approximately 16 percent have eight children or more. Only 1.5 percent have no children at all. Seven percent have seven children and another 9 percent reported six. Obviously, married couples on the Acoma Reservation have large families. The necessity to obtain jobs or otherwise find income sources must be pressing. Separated couples do not constitute a large proportion of the total, but about one-third of these couples have seven children and two-thirds have two and three children.

Widowed individuals report a median of four children. One child was the most frequently reported number by 24 percent of respondents. Next in order of magnitude was five children. It is likely that the children reported by the widowed group are no longer dependent. Such individuals presumably are older and have raised children before losing a spouse.

Single persons also reported having children with about 5 percent having one child. Nearly 3 percent have two children and still another 3 percent each report four and seven children, respectively. Nearly 20 percent failed to respond to the question. Perhaps a significant number chose not to reveal having children out of wedlock.

In summary, it is apparent from Tables IV and V that the Acoma Pueblo Indians have large families. The lack of economic opportunities may, however, have caused some to postpone marriage or forego it altogether. The responses from the never-married group regarding the number of children reveal the possibility of a large number of common-law marriages. Common-law marriages may not be considered a form of wedlock to some of the Acoma population, however, in that the Roman Catholic influence has conditioned them toward formal church marriages. The unmarried status of some individuals, particularly among females, may simply reflect the population imbalance between males and females. Even so, the extent of family responsibilities indicates that there should be significant incentive to work, even if it is not expressed by actively seeking employment. The deficiency of job opportunities brings about the lack of search for work.

EDUCATIONAL ATTAINMENT OF THE POPULATION

Employment opportunities over the past several years have been declining for Acoma workers who have less than a high school education. Opportunities for jobs appear to be expanding for those who have completed the full twelve years of secondary education. Persons with college educations beyond high school now have greater opportunities than in the past.[3] A high school diploma may or may not be essential to perform most tasks. Employers, however, commonly apply the high school diploma as the lowest educational level acceptable for

TABLE VI

EDUCATIONAL ATTAINMENT OF THE POPULATION

	Female		Male	
Educational Attainment by Grade Completed	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	1.3	2.3	1.3	2.8
1	1.3	2.3	1.7	3.7
2	0.4	0.8	2.1	4.7
3	1.3	2.3	2.9	6.5
4	2.1	3.8	1.7	3.7
5	2.9	5.3	0.4	0.9
6	1.7	3.0	2.5	5.6
7	5.0	9.0	1.7	3.7
8	3.3	6.0	6.7	15.0
9	7.5	13.5	3.3	7.5
10	10.0	18.0	5.0	11.2
11	3.3	6.0	4.2	9.4
12	13.8	24.8	7.5	16.8
13	0.4	0.8	1.3	2.8
14	0.0	0.0	0.8	1.9
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17+	0.0	0.0	0.0	0.0
Info. not available	1.3	2.3	1.7	3.7
TOTAL	55.6*	100.2**	44.8*	99.9**

N = 133 females; 107 males.

* The two categories combined do not sum to 100 percent due to rounding.

** Rounding error accounts for the discrepancy in sums.

employment. Table VI presents the educational attainments of Indians residing on the Acoma Reservation.

No Acoma Indian on the reservation possesses a college degree. It is, of course, possible that some Acoma have a degree, but have found it necessary to establish residence in other areas in order to find employment that would utilize such training. Less than 1 percent of females completed even one year of college. Approximately 5 percent of men went to college, but did not remain to complete degree requirements. It appears that Indian men are more likely to go on to college than women and remain longer once they start. Possibly the absence of incentive or financial support terminates the college program short of the four years needed for graduation.

Completion of high school is more likely among Acoma females than males; only 17 percent of men earn diplomas compared to 25 percent for women. Together, men and women with high school educations constitute only 21 percent of the working-age population. Only 2.5 percent of the working-age population has gone on to college for brief periods. Despite any desires the Indians might have to participate in the general labor force, at least three-fourths of the Acomas might be eliminated at the time employment applications are filed. If most employers require high school diplomas to permit addition to their work forces at the entry level, a large majority of the Acoma people cannot compete for jobs.

The agricultural orientation on the Acoma Reservation partially explains the low occurrence of high school completion among men. Many men, no doubt, were at an early age required to expend their labor on family acreage. Large family size would also have placed burdens on the eldest male children. Pressing family need for subsistence may also have made it necessary for males to hire out as agricultural laborers at an early age. These work requirements would have interfered with the completion of high school. Conversely, females have fewer opportunities to supplement family income, even on farms, and, therefore, are freer to remain in school longer than males.

Support for such reasoning is available in Table VI. Nearly 15 percent of working-age men dropped out of school after completing the eighth grade whereas only 6 percent of females did so. The female dropout rate accelerated after entry into high school and is greater than for men at the close of grades nine and ten, but falls below that of men at the close of grade eleven. The dropout rate for men is greater than for women at most grade levels under eight. Such low educational attainment is probably associated with older persons because the requirements of the agricultural society was a burden on the older generation.

It is unmistakably clear that significant training will be necessary to permit the Acoma to compete successfully in the general labor market. Seventy-six percent of the population aged 16 and over has attained less than twelve years of formal education, and twelve years of schooling is a minimal standard required by most employers for hiring. It will be difficult to attract industry to the reservation, given the current educational level of the working-age population. The median years of formal education completed is nine for men and ten for women. Training requirements, while substantial, may be somewhat less for women than for men.

Nearly 8 percent of 235 respondents revealed that they had undertaken technical or vocational training in attempts to prepare for labor force participation. Such endeavors are not adequate in terms of total Acoma need. Training alone is also inadequate unless jobs are made available to those who desire them. The majority of the on-reservation Indians are in an unemployable state.

Facility in English. Low educational attainments associated with geographic isolation of many Indians leads to the question of their ability to receive and execute commands in English. Respondents were asked three questions regarding their ability to utilize the English language. They were first asked: "What language do you most frequently speak in the home?" Seventy-one percent of 235 respondents revealed that their Indian language is normally used in their homes. The remaining 29 percent usually speak English at home and elsewhere.

The use of an Indian language most frequently in the home does not indicate an inability of the Acoma Reservation Indians to speak English. To verify this, respondents were asked: "Do you speak English?" Ninety-two percent of 235 said that they were able to communicate in English. Only 8 percent are unable to do so. Additionally, 88 percent read English, and 12 percent do not. The ability to speak but not read is probably confined to the very old since it is unlikely they have had formal education. While some of the elderly may have had two to six years of formal training, they remain essentially functional illiterates. It is recognized that language training for the elderly is economically unnecessary; but language instruction for the young is requisite for labor force preparation. A great deal of language efficiency is lost when tribesmen, over extended periods of time, neglect the use of English in order to communicate in their own Indian language. Basic educational skills training is required as well as work-related skills training if there is ever a commitment to utilize Indian power.

UTILIZATION OF THE HUMAN RESOURCE ON THE ACOMA RESERVATION

Population registers maintained by the BIA for the Pueblo of Acoma are not accurate. Although this list contains 1,654 names of people 16 years of age or older, when a random sample of 500 of these names was selected only 275 could be located on the reservation. On the basis of the proportion of those in the sample that could be located, the population 16 years of age and over is estimated at 910 people. It should be noted that some of the members of the Acoma community not living on the reservation live in Grants, New Mexico, which is approximately 25 miles from the reservation. These individuals usually maintain close ties with the reservation. Since this study was directed toward the on-reservation population, no attempt was made to contact those members of the Acoma Tribe that now reside off the reservation.

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	40.8
With a job but not at work	0.0
Looking for work	0.4
Keeping house	29.2
Going to school	16.3
Unable to work	7.1
Retired	2.1
Other	4.2
TOTAL	100.1*

N = 240

* Does not sum to 100 percent due to rounding.

LABOR FORCE PARTICIPATION

Those persons interviewed were asked about their activity during most of the year prior to the 1968 survey. Their responses to this question are reported in Table VII. It is seen that 40.8 percent of the people in the survey reported that they were employed during the year prior to the survey. Less than one-half of one percent of the working-age population was looking for work most of the year prior to the survey.

An individual is classified as being in the labor force if he is working, looking for work, or with a job but not working. Labor force participation rates for various age groups are presented in Table VIII. The overall labor force partcipation rates on the Acoma Reservation are well below those for the United States. One of the outstanding differences between Acoma and the U. S. rates occurs in the 16-19 year old age group. The U. S. rates are approximately five times the estimated Acoma rate.

Like the pattern for the United States, Acoma labor force participation rates increase for successive age groups through the 40-49 group, but starting with the 50-59 group, the Acoma participation drops off. This suggests that Acomas withdraw from the labor force at an earlier age than do workers in the United States in general.

TABLE VIII
CIVILIAN LABOR FORCE PARTICIPATION RATES:
ACOMA RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Acoma	U. S.
16-19	9.4	44.2
20.29	42.9	67.0
30-39	53.2	70.3
40-49	57.7	73.4
50-59	46.2	74.2
60 and over	29.8	29.5
All age groups	40.0	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

Some of the difference between the overall U. S. labor force participation rate and the Acoma participation rate can be explained by the difference in age distributions. Table IX reveals that the Acoma population is younger than the population of the United States in general. Since labor force participation rates of those in the younger age groups tend to be lower than labor force participation of older workers, the youthfulness of the Acoma population tends to depress the overall rate for the Acoma Reservation.

TABLE IX

AGE DISTRIBUTION: ACOMA AND UNITED STATES

(Percent 16 years of age or older)

Age Group	Acoma	U. S.
16-19	13.3	8.7
20-29	20.4	17.9
30-39	19.6	20.2
40-49	10.8	18.6
50-59	16.3	14.9
60-69	11.7	11.1
70 and over	7.9	8.5
TOTAL	100.0	99.9*

N = 240

* Does not sum to 100 percent due to rounding.

Source: U.S. Census of Population, 1960, for U.S. age distribution.

Table X illustrates that the labor force participation rates for age groups of Acoma women are less than half the rates for working-age U. S. women. Teen-age females are not oriented toward labor force activity. Labor force participation rates for Acoma women remain approximately the same for all age groups from 20-60.

TABLE X

FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
ACOMA RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Acoma	U. S.
16-19	0.0	37.4
20-29	22.2	49.2
30-39	23.1	45.2
40-49	26.7	52.2
50-59	28.0	55.9
60 and over	9.1	17.8
All age groups	18.8	41.5

Source: Manpower Report of the President 1964, for U.S. rates.

One of the unusual characteristics of labor force participation on the Acoma Reservation is the high participation rates for specific age groups of males. As shown in Table XI, the labor force participation rate for males in the 30-49 age group compares well with the U. S. labor force participation rate. This is also the case with the 60 and over group. All the age groups for male Acomas (except the 16-19 group) show that labor force participation is the rule rather than the exception. Acoma men seem to prefer work when it can be found, and they appear to seek it.

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
ACOMA RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Acoma	U. S.
16-19	21.4	51.4
20.29	68.2	88.0
30-39	90.5	97.8
40-49	100.0	96.3
50-59	78.6	92.3
60 and over	48.0	44.2
All age groups	66.4	79.7

Source: Manpower Report of the President, 1964, for U.S. rates.

In summary, the data reveal that the (a) labor force participation rates of young male and female Acomas is very low, (b) labor force participation rates of male Acomas 20 and over is quite high, and (c) labor force participation rates of Acoma women is low.

Reason for Not Entering the Labor Force

More than half of the surveyed members of the Pueblo of Acoma did not work during the year prior to the survey. This is well above the national average. The question arises as to how many of those that did not work sought work. Of the 124 respondents that responded that they did not work at all during the year prior to the survey, 120 reported that they did not seek work. It would appear that almost all of those that do not work do not seek work.

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work is available	1.7
Couldn't find work	0.0
Lacks necessary schooling, training, or experience	2.5
Employers think too young or too old	2.5
Personal handicap	0.8
Can't arrange for child care	1.7
Family responsibilities	47.5
In school or other training	19.2
Ill health or physical handicap	15.0
Other	12.5
Don't know	3.3

N = 120

* Does not sum to 100 percent due to multiple responses.

The individuals who did not seek work were asked for their reasons for not seeking employment. The responses to this question are reported in Table XII. As shown in the table, family responsibilities is reported as the most frequent reason for not seeking employment. Almost all of those listing family responsibility as a reason for not seeking employment were women. These data suggest that

TABLE XIII

MARITAL STATUS OF WOMEN LISTING "FAMILY RESPONSIBILITIES" REASON FOR NOT LOOKING FOR WORK

Marital Status	Percent
Married	75.9
Widowed	9.3
Divorced	0.0
Separated	3.7
Never-married	9.3
Info. not available	1.9
TOTAL	100.1*

N = 54

* Does not sum to 100 percent due to rounding.

the low labor force participation rates on the Acoma Reservation can be explained by the unwillingness of women to seek work because of family responsibilities. This may be especially true if they are required to work off the reservation. As shown in Table XIII, more than 75 percent of the women listing this reason for not seeking employment are married, and they are found over all age groups. The data suggest that family responsibility as a reason for not seeking employment does not disappear beyond child-rearing ages. Many of the women listing this reason for not seeking employment belong to an older age group. The response implies that the women are unwilling or unable to leave the reservation to work. If there were on-reservation opportunities, a different response might be forthcoming.

TABLE XIV
AGE DISTRIBUTION OF WOMEN NOT SEEKING EMPLOYMENT
DUE TO FAMILY RESPONSIBILITIES

Age Group	Percent
16-19	0.0
20-29	13.0
30-39	35.2
40-49	18.5
50-59	22.2
60-69	7.4
70 and over	3.7
TOTAL	100.0

N = 54

Employment Experience of Those Not Usually Employed

Those people who did not work in the year prior to the survey were asked: "When did you last seek a regular full- or part-time job or business?" Usable responses were received from 118 Acomas. None of these people are in the labor force. Table XV reveals that 59.3 percent of those who did not work in the year prior to the survey have never worked. An additional 27.1 percent of those that did not work in the year prior to the survey have not worked for five or more years. Together these two groups comprise more than 86 percent of those who did not work in the year prior to the survey.

TABLE XV

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	2.5
One to two years ago	1.7
Two to three years ago	4.2
Three to four years ago	0.9
Four to five years ago	4.2
Five or more years ago	27.1
Never worked	59.3
TOTAL	99.9*

N = 118

* Does not sum to 100 percent due to rounding.

These people have been isolated from the labor market for a considerable period of time. Their lack of participation in the labor market cannot be attributed to short-run factors.

Approximately two-thirds of those who have never worked are females. The marital status of those who never worked is reported in Table XVI. As shown in the table, the working-age female contingent is made up of married and widowed women. It would appear that marriage offers the best explanation for women not entering the labor force. The age distribution of those who have never worked

TABLE XVI

MARITAL STATUS OF THOSE WHO NEVER WORKED

(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	65.0	50.0
Widowed	20.0	8.3
Divorced	0.0	0.0
Separated	2.5	0.0
Never-married	7.5	33.3
Info. not available	5.0	8.3
TOTAL	100.0	99.9*

N = 40 females; 12 males.

* Does not sum to 100 percent due to rounding.

TABLE XVII
AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

Age Group	Percent Female	Percent Male
16-19	2.5	8.3
20-29	17.5	16.7
30-39	15.0	8.3
40-49	5.0	0.0
50-59	22.5	8.3
60-69	17.5	25.0
70 and over	20.0	33.3
TOTAL	100.0	99.9*

N = 40 females; 12 males.

* Does not sum to 100 percent due to rounding.

is presented in Table XVII. The age distribution of females does not seem to explain the absence from the labor force of women. Men who have never worked are concentrated in the older age group; more than a third are 70 years of age and older, and an additional 25 percent are between 60-69 years of age. Age appears to be a good explanation of the lack of labor force participation of men. Some of the very old men may never have considered themselves as being employed.

The pattern is very similar for those who have not worked for five or more years. Marital status of those who have not worked for five or more years is presented in Table XVIII Most of these people are

TABLE XVIII
MARITAL STATUS OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS
(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	72.0	85.7
Widowed	12.0	0.0
Divorced	0.0	0.0
Separated	4.0	0.0
Never-married	8.0	0.0
Info. not available	4.0	14.3
TOTAL	100.0	100.0

N = 25 females; 7 males.

married. The age distribution of the same group is presented in Table XIX and while females appear in all age groups, the males are concentrated in the older age groups. Again, it seems that marital status offers the best explanation for the lack of labor force participation of women and age offers the best explanation for nonparticipation of men. These findings are compatible with the general pattern of labor force participation rates for the Acoma Reservation.

TABLE XIX
AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	0.0
20-29	4.0	14.3
30-39	32.0	0.0
40-49	20.0	0.0
50-59	28.0	0.0
60-69	8.0	42.9
70 and over	8.0	42.9
TOTAL	100.00	100.1*

N = 25 females; 7 males.
* Does not sum to 100 percent due to rounding.

The low level of labor force participation by Acoma women is a reflection of the role of the female in Acoma society. Males, on the other hand, have high labor force participation rates. It appears that the most important reason for male nonparticipation is age.

Those people who were not employed during the year previous to the survey but were employed at some time in the past were asked why they left their last job. The responses to this question are reported in Table XX. Personal reasons appear to be the most important factor in the decision to terminate employment. Economic conditions do not appear to be significant factors.

UNEMPLOYMENT

The first IMRS question asks the respondent about his usual activity during the year prior to the survey. This question attempts to ascertain the level of employment, labor force participation, and unemployment on the basis of the respondent's recollection of his usual activity over a one-year span. Bias can enter into the response to this question due to the imperfect recollection of individuals, or because of differences in the interpretation of the question. That is, a person who worked two or three months may think he worked longer or may regard two or three months as working most of the year. Another example of difficulty in interpretation arises from the meaning of looking for work most of the year. A person may look for work one day each month and not think this constitutes a consistent activity. It is not clear how this person would respond to the questionnaire. In summary, the first question on the IMRS questionnaire should indicate labor force participation and employment reasonably well. Measures of unemployment may be unusually low since it is not likely that individuals will spend most of the year in the process of searching for employment. If employment is not found in a short period of time, individuals will most likely withdraw from the labor force. This will tend to keep the unemployment rate at a low level through adjustment in the size of the labor force.

TABLE XX

REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family or school	69.6
Health	0.0
Retirement or old age	10.9
Seasonal job completed	6.5
Slack work or business conditions	6.5
Temporary nonseasonal job completed	0.0
Unsatisfactory work conditions	0.0
Other	6.5
TOTAL	100.0

N = 46

The response to question one appears to understate the extent of unemployment on the Acoma Reservation since the results suggest an unemployment rate of only 1 percent. At another point in the questionnaire, respondents who had not worked in the year prior to the survey were asked if they had sought employment at any time. Only five of 124 respondents replied that they had sought work. The belief that no work was available may have influenced their action.

This belief may have been reinforced over the years as a consequence of consistent lack of success.

Conventional measures of unemployment do not indicate a high unemployment rate on the Acoma Reservation. Only a small portion of the people who sought work were unable to find work. Due to the small number of people in this category, detailed characteristics of the unemployed are not available.

UNDEREMPLOYMENT

Only a small portion of the Acoma residents were employed from ten to twelve months, as shown in Table XXI. Only 44.9 percent of the male Acomas worked between ten and twelve months. The 12 percent of females working between ten and twelve months is low.

TABLE XXI

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

Months Worked	Percent of Population	Percent Female	Percent Male
0	51.7	72.9	25.2
1 - 3	8.3	6.0	11.2
4 - 6	7.1	3.8	11.2
7 - 9	6.3	5.3	7.5
10 - 12	26.6	12.0	44.9
TOTAL	100.0	100.0	100.0

N = 133 females; 107 males.

TABLE XXII

DISTRIBUTION OF THOSE WHO DID SOME WORK BY NUMBER OF MONTHS WORKED

Months Worked	Percent of Total
1 - 3	17.2
4 - 6	14.7
7 - 9	12.9
10 - 12	55.2
TOTAL	100.0

N = 116

Of those members of the Acoma community who did any work during the year prior to the survey, only 55.2 percent worked between ten and twelve months, as shown in Table XXII.

Respondents were also asked if they usually worked year-round. Their replies are recorded in Table XXIII. Of those responding, 61.6 percent worked year-round. This suggests that some of those who worked less than ten months consider their employment year-round. Seasonal employment was reported by 25 percent of those that did some work in the year prior to the survey. Approximately 38 percent of the working-age population work only seasonally or irregularly. Such a high percentage attests to the lack of reservation opportunities for work. Seasonal employment is most important during the summer months as reported in Table XXIV. In summary, of those people on the Acoma Reservation who did work in the year prior to the survey, a large portion worked only part of the year. Spring and summer work activity implies the use of Acomas in agriculture. Spring may coincide with planting activities and the fall with harvesting. During the winter, work in agriculture reaches its lowest point.

TABLE XXIII

USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	61.6
Seasonal	25.0
Irregular	13.4
TOTAL	100.0

N = 112

TABLE XXIV

DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed*
Spring	39.3
Winter	10.7
Fall	35.7
Summer	82.1

N = 28

* Does not sum to 100 percent due to multiple responses.

The relationship between age and number of months worked in the year prior to the survey is presented in Table XXV. Of those working one to three months, 65 percent are in the two youngest age groups. Of those who worked ten to twelve months, 50 percent are in the 30-49 age group. Establishment of individuals in relatively full-time employment seems to require a considerable span of time for Acomas.

TABLE XXV

AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED

(Percent)

	Months Worked				
Age Group	0	1-3	4-6	7-9	10-12
16-19	16.9	45.0	0.0	6.7	1[illegible]
20-29	16.1	20.0	41.2	20.0	18.8
30-39	16.9	15.0	17.7	13.3	32.8
40-49	8.1	0.0	11.8	20.0	17.2
50-59	15.3	5.0	23.5	26.7	17.2
60-69	12.9	15.0	5.9	13.3	9.4
70 and over	13.7	0.0	0.0	0.0	3.1
TOTAL	99.9*	100.0	100.1*	100.0	100.1*
Number in each group	124	20	17	15	64

* Does not sum to 100 percent due to rounding.

Data on marital status and number of months worked are illustrated in three tables. Table XXVI reveals that 79.7 percent of married females did not work at all. Only 1.5 of married women had

TABLE XXVI

DISTRIBUTION OF MONTHS WORKED FOR MARRIED ACOMAS

Months Worked	Percent Female	Percent Male
0	79.7	18.2
1 - 3	4.4	1.5
4 - 6	5.8	12.1
7 - 9	8.7	9.1
10 - 12	1.5	59.1
TOTAL	100.1*	100.0

N = 69 females; 66 males.

* Does not sum to 100 percent due to rounding.

worked between ten and twelve months of the prior year. Only 59 percent of married males had worked ten to twelve months.

Never-married female Acomas are more likely to have worked than the married Acoma women. Even so, neither are likely to be attached to the work force to any considerable extent. As indicated in Table XXVII, a large proportion of never-married Acoma females (60.5 percent) did not work in the year prior to the survey. Yet, of the never-married females, 23.4 percent had worked between ten and twelve months. The proportion of never-married females is much higher than the proportion of married females working ten to twelve months. Never-married males are much less likely to be employed ten to twelve months than are married males. More than 63 percent of the never-married males in the survey worked three months or less. Table XXVIII shows that a very high percentage of

TABLE XXVII
DISTRIBUTION OF MONTHS WORKED FOR NEVER-MARRIED ACOMAS

Months Worked	Percent Female	Percent Male
0	60.5	33.3
1 - 3	11.6	30.3
4 - 6	2.3	9.1
7 - 9	2.3	3.0
10 - 12	23.4	24.2
TOTAL	100.1*	99.9*

N = 43 females; 33 males.
* Does not sum to 100 percent due to rounding.

TABLE XXVIII
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	85.7	75.0
Widowed	0.0	12.5
Divorced	0.0	0.0
Separated	0.0	0.0
Never-married	14.3	12.5
TOTAL	100.0	100.0

N = 7 females; 15 males.

all those who worked between ten and twelve months were married. This is true for both males and females. In summary, marriage tends to encourage full-time male employment and discourage year-round female employment. A high percentage of those who do work year-round are married. Family responsibilities of females are reflected in this data and support the answers given by women regarding their reasons for not seeking employment.

HOURS WORKED

Those Acomas who do work tend to work full time when they are working. Interviewees were asked how many hours per week they worked and the responses are reported in Table XXIX. About 88 percent of those responding reported that they ordinarily work 35 hours or more per week. Those people who worked less than 35 hours per week were asked their reasons for so doing. The responses are reported in Table XXX. Economic conditions were not the main reason cited for working less than 35 hours per week. One-third desired part-time work because of housework and other responsibilities. Nearly 42 percent did state that their jobs required less than 35 hours per week.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

INDUSTRY EXPERIENCES

The industry and occupational distribution of the Acoma on-reservation Indians has in the past five years been limited. Table

TABLE XXIX

HOURS PER WEEK USUALLY WORKED BY EMPLOYED ACOMAS

Hours	Percent of Total
1 - 14	3.5
15 - 29	3.5
30 - 34	4.4
35 - 39	4.4
40	65.8
41 - 48	14.0
49 - 59	3.5
60 or more	0.9
TOTAL	100.0

TABLE XXX

REASONS FOR WORKING 35 HOURS OR LESS

Reason	Percent of Those Working 35 Hours or Less
Slack work	0.0
Material shortage	0.0
Plant or machine repair	0.0
Could only find part-time work	8.3
Labor dispute	0.0
Bad weather	0.0
Own illness	0.0
Too busy with housework, school, business, personal, etc.	33.3
Did not want full-time work	0.0
Full-time work under 35 hours	41.7
Other reason	16.7
TOTAL	100.0

N = 12

XXXI reveals past and present employment and industry experiences of tribesmen. The identified industries include both on- and off-reservation sources. The data are based on 129 responses.

The industry classes in which relatively the most Acoma Pueblo Indians have had experience include government, wholesale and retail trade, and mining. The federal government is by far the single most important source of work experience for the Indians. However, very little work is provided on the reservation. Most are required to commute daily or weekly to the United Pueblo Agency facilities located approximately 84 miles away in Albuquerque, New Mexico. Local government employment experiences over the past five years have been confined to tribal government positions, which are limited in number. Both federal and local government experiences account for 30 percent of all industry attachments over the period of time just mentioned. Tribal employment could be developed by more intensive efforts to attract tourists to "Sky City," the name commonly used to refer to the ancient city of Acoma. The Indians close down the city during peak tourist seasons for ancient Indian religious purposes and this, too, has the effect of limiting employment and income generation for tribesmen.

TABLE XXXI
ACOMA EMPLOYMENT BY INDUSTRY CLASS
(Number and percent)

Code	Industry	Number		Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	12		
	Subtotal		12	9.3
	MINING			
10	Metal mining	21		
	Subtotal		21	16.3
	CONTRACT CONSTRUCTION			
15	Building construction—general contractors	5		
16	Construction other than building - general contractor	4		
	Subtotal		9	7.0
	MANUFACTURING			
24	Lumber and wood products, except furniture	3		
33	Primary metal industries	2		
34	Fabricated metal products, except ordnance, machinery, and transportation equipment	2		
36	Electrical machinery, equipment, and supplies	1		
	Subtotal		8	6.2
	TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES			
40	Railroad transportation	4		
	Subtotal		4	3.1
	WHOLESALE AND RETAIL TRADE			
50	Wholesale trade	1		
53	Retail trade—general merchandise	6		
54	Food stores	3		
55	Automotive dealers and gasoline service stations	1		
58	Eating and drinking places	12		
	Subtotal		23	17.8
	SERVICES			
70	Hotels, rooming houses, camps, and other lodging places	6		
75	Auto repair, service and garages	1		
80	Medical and other health services	1		
88	Private households	5		
	Subtotal		13	10.1

TABLE XXXI (continued)

Code	Industry		Number	Percent of Total
	GOVERNMENT			
91	Federal government	35		
93	Local government	4		
	Subtotal		39	30.2
TOTAL			129	100.0

N = 129

On-reservation Indians have had experience in wholesale and retail trade, which accounts for nearly 18 percent of industry associations during the past five years. Their work is primarily in restaurants and general merchandising stores. Little employment is found in gasoline service stations and specialized supermarkets.

Mining activities have provided work experiences to Acoma males. Sixteen percent of all recent mining employment has been in the Anaconda uranium operation near the reservation, but in recent years, the operation has declined in importance.

The services industry is an important one for the Acoma. Approximately 10 percent of all industry experience falls in this category. The tourist attractions in New Mexico have provided work opportunities in hotels and other lodging places, and in automobile service and repairs. In addition, private household work as domestics is important to labor force Acoma women. Such work in services is almost entirely concentrated in off-reservation locations.

Agriculture is less important to the population currently than has been the case in the past and only 9 percent report recent experience in such activities. As mentioned, depletion of the on-reservation lands for agricultural and related purposes partially explains the low labor incidence of this type. Continued mechanization of agriculture in general has also influenced the availability of farm work off the reservation. Increasingly, opportunities in the agriculture industry will decline.

Relatively less important industries for employment include contract construction, manufacturing, and transportation. Three percent of respondents reveal that they have had experience with railroad companies. Opportunities in railroad transportation are declining. Another 6 percent of Acomas have worked in manufacturing of various types. Lumber and wood products reflect the existence of the lumber stands on the reservation; some Indians have been employed in lumber mill operations. Still another 7 percent have had experience in the construction industry; the skills developed there may be important for possible reservation projects in the near future.

The particular industries in which the Acoma Reservation residents have experience are those that generally require relatively unskilled labor. Even so, employment opportunities have been limited usually to jobs at the entry level, and to jobs that are highly sensitive to general economic conditions. More information in this regard is available by a review of occupational experiences within the industry classifications mentioned.

OCCUPATIONAL EXPERIENCES

The 129 Acoma respondents provided information regarding the particular jobs they performed within the various industry classifications. Their description of on-job duties permitted classification by use of the *Dictionary of Occupational Titles*. The results are illustrated in Table XXXII.

TABLE XXXII

ACOMA EMPLOYMENT BY OCCUPATIONAL TITLE

(Number and percent)

Code	Description		Number	Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
00, 01	Occupations in architecture and engineering	3		
07	Occupations in medicine and health	2		
09	Occupations in education	1		
18	Managers and officials, not elsewhere classified	2		
19	Miscellaneous professional, technical, and managerial occupations	2		
	Subtotal		10	7.8
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	2		
21	Computing and account–recording occupations	1		
22	Material and production recording occupations	1		
24	Miscellaneous clerical occupations	1		
29	Merchandising occupations, except salesmen	5		
	Subtotal		10	7.8

TABLE XXXII (continued)

Code	Description	Number		Percent of Total
	SERVICE OCCUPATIONS			
30	Domestic service occupations	15		
31	Food and beverage preparation and service occupations	15		
32	Lodging and related service occupations	8		
35	Miscellaneous personal service ooccupations	4		
37	Protective service occupations	3		
38	Building and related service occupations	4		
	Subtotal		49	38.0
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
41	Animal farming occupations	8		
42	Miscellaneous farming and related occupations	2		
	Subtotal		10	7.8
	PROCESSING OCCUPATIONS			
50	Occupations in processing of metal	1		
57	Occupations in processing of stone, clay, glass, and related products	1		
	Subtotal		2	1.6
	MACHINE TRADE OCCUPATIONS			
61	Metalworking occupations not elsewhere classified	2		
62, 63	Mechanics and machinery repairmen	6		
66	Wood machining occupations	2		
	Subtotal		10	7.8
	BENCH WORK OCCUPATIONS			
73	Occupations in fabrication and repair of products made from assorted materials	1		
	Subtotal		1	0.8
	STRUCTURAL WORK OCCUPATIONS			
80	Occupations in metal fabricating not elsewhere classified	2		
81	Welders, flame cutters, and related occupations	5		
82	Electrical assembling, installing, and repairing	1		
85	Excavating, grading, paving, and related occupations	3		
86	Construction occupations not elsewhere classified	8		
89	Structural work occupations not elsewhere classified	3		
	Subtotal		22	17.1

TABLE XXXII (continued)

Code	Description	Number		Percent of Total
	MISCELLANEOUS OCCUPATIONS			
90	Motor freight occupations	1		
91	Transportation occupations not elsewhere classified	9		
92	Packaging and materials handling occupations	1		
93	Occupations in extraction of minerals	2		
94	Occupations in logging	1		
95	Occupations in production and distribution of utilities	1		
	Subtotal		15	11.6
TOTAL			129	100.3*

N = 129

* Does not sum to 100 percent due to rounding.

Despite the importance of government as an industry class, service occupations constitute the single most important source of present and past work experiences. Thirty-eight percent of respondents have provided service types of functions across industry classes. For example, a significant number of Indians working for the federal government provide services similar to those of domestics in private households; for instance, work by both women and men as hospital helpers and attendants. Food and beverage preparation in the form of cook helpers, kitchen helpers, waiters, and cooks are services commonly identified by respondents. The range of tasks required in hotels and motels are also found to consist of lower level services; maids or housekeeper services are performed by the women. In short, all the service experiences are concentrated largely in pursuits requiring little specific training, if any. The lack of training requirements for such occupations places most of the people in highly seasonal and vulnerable employment.

Structural work occupational experiences were revealed by 17 percent of persons sampled. The category includes metal fabrication, welders, electrical assembly and repair, excavation and grading, and construction work. Some of the job descriptions undoubtedly require considerable skills and experience for efficient performance. The list of occupations reveals that some persons currently or in the recent past have performed some work related to tasks in common demand by most employers.

Nearly 8 percent of the working-age population have had experience in professional, technical, and managerial occupations. These include health, education, and managerial functions. Among the more prominent tasks are test technicians, practical nurses, store manager, assistant instructor, and community organization workers. Another 8 percent revealed that farm occupations are among recent experiences; sheepherders and ranch hands predominated the reported activity. Jobs connected with the growing of crops were not reported by respondents.

Still another 8 percent of the population revealed basic clerical and sales occupational experience. The majority serve as clerks in retail stores; however, some have knowledge of normal office functions such as typing and filing.

The processing occupations are not well represented. Only 2 percent revealed such experiences; some work in the mines, and others mold pottery for sale as handicrafts. The table seems to indicate that few of the Acoma continue to work at pottery making. The competition from a large number of other reservations and lack of sufficient retail outlets may be forcing most of those with such knowledge to withdraw from the effort.

Metal work, machine repair, and woodworking occupations have engaged about 8 percent of the population at some time over the past five years. Possession of these skills would generally provide opportunity for greater mobility in the general labor market if the people were inclined to move where such skills are in demand.

Nearly 12 percent of the population have miscellaneous experience in such jobs as motor freight, transportation, extraction of minerals, and logging. Most work in the category has been related to the fortunes of railroading. The railroads have employed several of the reservation men over the years. However, opportunities to work at the occupation in this category are dwindling.

In summary, the Acoma Reservation people have occupational experiences that range from the technical category to the unskilled low labor market entry level occupations. Acomas are not well prepared to compete for jobs in a general labor market with national unemployment rates even as high as 3.5 to 4 percent. Most may find that their greatest success in obtaining jobs coincides with periods of relatively high levels of economic activity. This feature of the manpower resource indicates that the Acoma may withdraw from actively seeking employment during periods of relatively low aggregate demands for goods and services.

Location of Present Job. Respondents were asked to reveal if their present or usual job is located off or on the reservation. Sixty-three percent of 116 individuals reported that their usual jobs are off the reservation. The remaining 37 percent are engaged in farm and nonfarm work on the reservation. Much of the on-reservation work is irregular in nature. Few employment opportunities are available on the Acoma Reservation.

Source of Learning Present Job. Individuals usually working were asked to reveal where they had learned to perform their present job. Table XXXIII illustrates the various sources of learning on the basis of 116 replies.

TABLE XXXIII

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	81.0
Government training program	5.2
Armed services	0.9
Formal schooling	6.9
Other	6.0
TOTAL	100.0

N = 116

By far the most important source of learning to perform work assignments is on-the-job training by employers as revealed by eighty-one percent of the respondents. Most employers want work assignments to be executed in a specific fashion; therefore general educational attainments must be supplemented by specific on-the-job training in most cases. Unskilled work in particular reflects little carry-over from formal training except when record-keeping or reading is involved. It has already been demonstrated that very few jobs held by Indians carry such responsibilities.

Five percent considered they were prepared to perform their jobs upon completion of government training programs. Approximately 1 percent found their experiences in the Armed Forces provided sufficient skills for them to perform current jobs. Formal education was the source of learning jobs for 7 percent of the respondents.

These skills developed usually entail typing, shorthand, and other such tasks as are normally carried over into office and related work.

Six percent of the population learned skills necessary for their work from sources other than those mentioned. Friends and relatives were often influential in teaching them to do certain jobs. In some cases the individuals are self-taught.

Four percent of the working-age population hold union cards. The low occurrence of union membership reflects the types of jobs held by the Pueblo Indians. The marginal jobs held are in occupations that have traditionally received little or no attention from labor organizations. Many of the service occupations have evaded union attempts at organization in the past. This reflects partially the lack of employment stability in such pursuits. In addition, the reliance upon the federal government for jobs has been in areas of work that have traditionally been untapped by unions.

Such union membership as does exist is restricted essentially to construction, mining, and railroading. Few areas have escaped unionization in such industries. Very few Indians have been employed in unionized industries and, therefore, they have not had much of an opportunity to either accept or reject union membership. In addition, few have had opportunities to participate in union apprenticeship programs.

Skills Training Without Subsequent Job Experience. It is widespread knowledge that Indians prefer to remain on reservations if at all possible. Some venture away long enough to undertake training for various occupations, but once trained they often return to Indian land without gaining experience in occupations for which they are trained. Latent skills were revealed by 14 percent of the population. Specifically, the training that had been undertaken was in such areas as automobile mechanics, cooking, industrial electronics, carpentry, teaching, sewing, and as machine operators. No attempt was made to find out the source and extent of such training. For example, training for teaching may have been received as teacher assistants or, at best, through one or two years of college training. Obviously, such training does not result in adequate qualifications to obtain work. Teacher certification normally requires more than the preparation mentioned. Even if an individual had been temporarily certified at some time in the past without meeting current requirements, the possession of a teaching certificate would not insure a position in the present market for instructors.

Most of the training mentioned by respondents has prepared Acomas only for marginal employment positions. Even so, their unwillingness to relocate could be the major factor in their inability to obtain work in occupations requiring such training. Training for an occupation is of little significance so long as Indians remain on reservations, given the current state of economic development of their lands. The number of on-reservation nonfarm jobs is low, and the future rate of job creation appears bleak.

SOURCES OF INCOME

The ability to remain on the reservation depends largely upon access to sources of income to provide basic economic needs. Insights into incentives to participate in the labor force may also be recognized by reviewing the sources and amount of earned and unearned income available to individuals and their families. Income data derived from the study is classified by age, sex, and educational attainment. In this way it is possible to determine some of the influence education has had on the economic well-being of the population. It is known that income sharing has a considerable influence on the alternatives available to Indians. For example, a responsibility to care for relatives outside the immediate family may restrict some individuals in attempts to leave the reservation to compete in distant labor markets. It should be recognized that income data were compiled without the benefit of respondent use of records; therefore, the data depend upon recall that may or may not be equally accurate from one respondent to another. The data, however, do provide fairly accurate indications as to the economic well-being of the population.

EARNED AND UNEARNED INCOME

Separate questions were asked of respondents regarding the various sources and amounts of income received by both individuals and their families during calendar 1967. Table XXXIV contains the data on the individual responses about their own receipts and also on their knowledge of total family income. In addition, the bias toward larger family reporting was partially corrected by eliminating the responses of more than one member per family. Such data are presented in the table as adjusted family income.

Nearly one-third of the total working-age population are without any income whatsoever. Another 18.3 percent received less than $500 during 1967. Still another 18 percent of the population reported incomes ranging from $500-999. Only 9 percent were able to attain incomes in the $1,000-1,999 category, and 8.5 percent were in the $2,000-2,999 bracket. In total, 86 percent of the working-age population receive incomes under $3,000 per year. This situation reflects the marginal types of jobs filled by the Acoma people.

TABLE XXXIV

INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0	32.3	N.A.	N.A.
1 - 499	18.3	9.1	7.7
500 - 999	17.9	15.2	15.4
1,000 - 1,999	8.9	15.6	15.4
2,000 - 2,999	8.5	11.3	9.9
3,000 - 4,999	5.1	16.0	13.2
5,000 - 9,999	8.1	29.9	33.0
10,000 - and over	0.9	3.0	5.5
TOTAL	100.0	100.1*	100.1*

N = 235 individual; 231 unadjusted family; 91 adjusted family.

* Does not sum to 100 percent due to rounding.

Less than 1 percent of the population receive annual incomes of $10,000 and over. Eight percent fall in the $5,000-9,999 bracket, and another 5 percent report themselves in the $3,000-4,999 range. It is obvious that the vast majority of individuals on the Acoma Reservation do not share proportionately in the general U. S. gains in national income. Individual Indians have not been in a position to compete for work with rewards sufficient to enable them to identify with the general American consumer in the marketplace.

Family Income. The Acoma families have probably remained on an extended family basis because of the necessity for income sharing. Table XXXIV indicates that income sharing is extensive on the reservation. Nine percent (8 percent adjusted) of families receive less than $500 per year as compared to 51 percent for individual respondents. Obviously a significant number of family members are required to contribute to the support of the unit in order to provide the necessities for life.

The median number of children per family is six, but it is likely that some may not be classified as dependent. However, approximately 15 percent of families, both adjusted and unadjusted, receive income in the $500-999 bracket. In addition, 51 percent of the families subsist on less than $3,000 per year, including both earned and unearned income. After adjusting the data, 48 percent of families still are in the poverty category. Poverty is defined as existing among families of four when income is below $3,130 annually.

At the same time, the pooling of income has had the effect of placing 16 percent of families in the $3,000-4,999 category and 30 percent in the $5,000-9,999 group. On an adjusted basis, the table reveals that nearly one-third of Acoma families receive $5,000-9,999 per year. The $10,000 and over family income group includes 3 percent unadjusted, but 5 percent when on an adjusted basis. The ability of families to rise into the higher categories reflects their industry and attitudes toward seeking work. The relatively large families appear to cooperate in efforts to raise their living standards to a level not possible for one or two working members to provide. Median individual income is only about $500 per year. However, it ranges between $2,000 and $2,999 on an unadjusted family basis and over $3,000 on an adjusted basis. The Acoma families fare better than the three Arizona tribes included in the Indian Manpower Resource Study.

TABLE XXXV

NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	3.0
Homemade clothing	0.4
Goods exchanged for other goods	1.7
Other barter sources	1.3

N = 233

Non-Money Income. The agricultural background of the Acoma people leads to the logical expectation that there could be considerable income supplements through subsistence gardening and certain forms of barter. Respondents were asked: "Did you receive any non-money income last year?" Several possible categories of response were provided to individuals questioned, along with other sources they might declare on their own. The sources of non-money income are revealed in Table XXXV.

Some non-money income is earned on the Acoma Reservation, but it appears to be limited. Only 3 percent of the respondents attempt to provide some of their food needs by gardening. Such limited activity may well be restricted to older persons who are acquainted with the tasks of farming. They are likely to be on pensions, and have long withdrawn from the labor force; for these reasons, they may undertake to raise vegetables for home consumption.

Very few women, less than one-half of one percent, make their own apparel. This is so despite the knowledge of sewing skills expressed by respondents. It may well be that the possession of sewing machines is limited. Alternatively, those who do not sew may consider clothing from stores cheaper and their efforts better spent in other pursuits.

Nearly 2 percent revealed that some income is derived from an exchange of goods. Another 1 percent replied that other sources of trade provided some income during the past year. The ones that were able to gain some benefits of a non-money nature did not do very well. The amount of non-money income is reported in Table XXXVI. Ninety-five percent of the population is inactive in barter, gardening, or do-it-yourself types of activity for the purpose of supplementing income. Three percent estimate that their efforts during the past year provided less than $500. Another 2 percent were more successful in that they valued their endeavors in the $500-999 category. The entire range of possiblities, however, does not generate incomes over $1,000 annually to any individuals.

TABLE XXXVI

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	94.9
1 - 499	3.4
500 - 999	1.7
1,000 or over	0.0
TOTAL	100.0

N = 234

The combined earned and unearned income of Acoma residents is low relative to the general American population. In 1966, median family income for the United States was $7,436.[4] Median Acoma family income, as stated, was only approximately $2,500-3000 in 1967; however, with this income, the Acoma do considerably better than many other Indian tribes. Even so, an estimate apart from this study showed that a family income between $3,130-$6,000 holds a family of four at an "adequate but modest" standard of living.[5] The same source estimated that unattached individuals with incomes under $3,000 and above $1,540 are unable to maintain a modest but adequate standard of living.[6] Most Indians live in poverty on the Acoma Reservation, based on the guidelines just mentioned.

SOURCES OF INDIVIDUAL INCOME

The sources from which income is received are important in order to differentiate that which is earned from that unearned. The question was asked: "What were the sources of income received by you in the last twelve months?" A considerable number of possible sources were listed in the questionnaire and each person interviewed was asked to identify those applicable to him. Table XXXVII provides the reported sources on the basis of yes or no replies.

The most frequently mentioned source of income was earnings from a trade; roughly 29 percent supply either most or a part of their needs from the various types of jobs they are able to obtain. The category includes both unskilled and skilled types of work performed. It should be observed once again that nearly one-third of the working-age population do not have access to income from any source. It is certain that some in the category are still enrolled in high school, but many others are unable or unwilling to seek work where none exists or to leave the reservation to compete for scarce jobs.

Another 14 percent derive income from farms or ranches. Individuals in the category work by the day or some other specified period for pay. The category does not include ownership of such resources. Ownership is reflected in the self-employed category. Nearly 3 percent of the population report such a source of income.

Nearly 5 percent report earnings from the sale of handicraft. It will be recalled that the Acoma Indians are noted for their pottery. The practice is still relatively popular as can be verified immediately by the number of kilns at Sky City. Still another 5 percent report income from prior investments or timber sales, annuities, and leases. The exact nature of the investments is not known.

Unearned income is an important feature of the Acoma economy. However, the Bureau of Indian Affairs is not an important source of funds; less than one-half of one percent reported this source. State assistance payments are made to 5 percent of the population. Retirement pensions from private sources reach 4.3 percent of the population with some going to former railroading men. Social Security payments reach another 7 percent of the population. Thus, it is obvious that the elderly do make substantial contributions to tribal well-being. Collectively, they are an important provider of care for the extended family units.

XXXVII

SOURCES OF INDIVIDUAL INCOME

Source	Percent*
Gifts from children, relatives, or churches	3.0
Sale of handicrafts	4.7
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	2.6
Earnings from a farm, ranch or other business	13.7
Earnings from a trade	28.8
Pensions	4.3
Assistance payments from Bureau of Indian Affairs	0.4
Assistance payments from other public or private sources	4.7
Interest or dividends on personal loans and investments	3.4
Income from royalties, leases, timber sales, annuities	1.7
Judgment or settlement funds	0.0
Sale of property	0.0
Veterans payments	1.3
Social Security	6.9
Unemployment insurance	1.7
None	32.9
Other	9.0

N = 233

* Does not sum to 100 percent because of multiple income sources.

Veterans Administration payments to veterans and dependents of all types reach 1.3 percent of the population. These include retirement benefits for some and allotments for family support for others. Unemployment insurance is also collected during periods of slack work; 1.7 percent of the population identified these benefits as a source of income during 1967.

Gifts were received from friends, relatives, or churches by 3 percent of the population. Churches are usually the most active in this category, but it appears that the ability of those congregations that provide such gifts to the Acoma is limited; some other reservations do much better in this regard. Still another 9 percent of the population obtained income from sources other than those specifically named in the questionnaire.

The significant factor is that transfer payments are highly important to the Acoma in their living standard. Such payments account for the difference between poverty and physiological starvation. Life in the extended family is prolonged by the lack of adequate alternatives facing the working-age population. If it can be assumed that labor force participation rises when income levels are relatively low, then the Acoma Reservation contains a virtually untapped reservoir of manpower resources.

THOSE WITH NO INCOME

The percentage of working-age respondents on the reservation reporting no income is high (32.9). The fact that many individuals have no income source of their own is primarily a reflection of the low level of labor force participation by females. Of the seventy-six individuals that reported they had no income, fifty-eight are females. Of those women with no income, 72.4 percent listed keeping house as their primary activity during the year prior to the survey. An additional 24.1 percent responded that they were going to school during the year prior to the survey. Of the males with no income, 44.4 percent were enrolled in school.

The age distribution of those females who reported no source of income is presented in Table XXXVIII. The table indicates that the women with no income are dispersed over all age groups. In fact, the age distribution of women with no income does not differ greatly from the age distribution of all women on the reservation. The only large differences appear for the very young women and for the older

TABLE XXXVIII

AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	22.4	13.5
20-29	19.0	20.3
30-39	24.1	19.6
40-49	12.1	11.3
50-59	17.2	18.8
60-69	3.5	9.0
70 and over	1.7	7.5
TOTAL	100.0	100.0

N = 58

women. Young women are likely to be enrolled in school and older women are likely to have some sources of unearned income. This age pattern of females with no income confirms the information on labor force participation. In general, the labor force participation for female Acomas is low for all age groups and does not show substantial variation among age groups. The distribution of females with no income does not fluctuate widely among the age groups.

Of the 107 Acoma males in the survey, eighteen reported no income in the year prior to the survey. There is a heavy concentration

TABLE XXXIX

AGE DISTRIBUTION OF MALES WITH NO INCOME

Age Group	Percent of Males with No Income	Percent of All Males in Age Group
16-19	38.9	13.1
20-29	33.3	20.6
30-39	5.6	19.6
40-49	0.0	10.3
50-59	5.6	13.1
60-69	5.6	15.0
70 and over	11.1	8.4
TOTAL	100.1*	100.1*

N = 18

* Does not sum to 100 percent due to rounding.

of Acoma males with no income in the younger age groups as shown in Table XXXIX. Of the Acoma males reporting no income, 38.9 percent are in the 16-19 age group and 33.3 percent are in the 20-29 age group. The concentration in the younger age groups is due to the fact that many of the younger people are enrolled in school. A very high percentage of Acoma males in the 30-69 age range have some source of individual income.

Earnings from a Trade

The most frequently mentioned source of income on the Acoma Reservation is earnings from a trade. Of those responding to the questionnaire, 28.8 percent reported that they had income from a trade. Of the sixty-seven people reporting this source of income, forty-six are males and twenty-one are females. This is consistent with the information developed in the labor force participation section. The higher labor force participation for men is reflected in greater access to this source of income.

The age distribution of those Acoma respondents with earnings from a trade is reported in Table XL. Women with this source of income are concentrated in the 20-29 age group. The age distribution of males with income from a trade is well dispersed. It would appear that this is an important source of male income for all age groups.

TABLE XL

DISTRIBUTION OF EARNINGS FROM A TRADE

(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	4.8	4.4
20-29	52.4	10.9
30-39	19.1	32.6
40-49	4.8	13.0
50-59	14.3	15.2
60-69	4.8	15.2
70 and over	0.0	0.0
TOTAL	100.2*	91.3*

N = 21 females; 46 males.

* Does not sum to 100 percent due to rounding.

SELF-EMPLOYMENT AND OWNERSHIP INCOME

The respondents to the questionnaire were asked if they had any income from self-employment activity, and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietary interest in a business and derive income from that business, but take no part in the operation of the business. Such a person does not receive self-employment income, but may receive income from the business. It is not clear whether respondents were able to make the distinction although interviewers were instructed to make an attempt at establishing the distinction. For the Acoma Reservation, these two sources should probably be treated as one since it does not appear that respondents differentiated between the two income sources. Income from ownership was reported by thirty-two respondents. Of the thirty-two respondents, twenty-six were men. Self-employment income was reported by six individuals. Of these six, four were males. The data suggests that males have greater access to these sources of income than do females. The age distribution of men with income from these sources is presented in Table XLI. Income from ownership is especially important to older males. More than half (57.6)

TABLE XLI

SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP

(Males by age)

Age Group	Percent of Males with Earnings from Ownership	Percent of Males with Self-employment Income
16-19	11.5	0.0
20-29	19.2	25.0
30-39	7.7	0.0
40-49	3.9	50.0
50-59	19.2	25.0
60-69	26.9	0.0
70 and over	11.5	0.0
TOTAL	99.9*	100.0

N = 26 ownership; 4 self-employment.

* Does not sum to 100 percent due to rounding.

percent) of those with income from ownership were 50 years of age or older. This may reflect income from the operation of farms or ranches on the Acoma Reservation.

INCOME FROM HANDICRAFTS

Income from handicrafts on the Acoma Reservation deserves special attention. Pottery made by the Acomas is among the finest produced by Indians in the United States. Some of the pottery being made today on the Acoma Reservation can be sold at very high prices (often more than one hundred dollars). The making of pottery has by tradition been part of the housekeeping chore. Thus, most of the potters producing items for sale are women.

TABLE XLII
DISTRIBUTION OF INCOME FROM HANDICRAFTS
(Females by age)

Age Group	Percent Females
16-19	0.0
20-29	0.0
30-39	10.0
40-49	10.0
50-59	30.0
60-69	40.0
70 and over	10.0
TOTAL	100.0

N = 10

Of the eleven people reporting income from the sale of handicrafts, ten were women. The age distribution of these women is presented in Table XLII. It is interesting to note that 80 percent of the women with income from this source are 50 years of age or older. None of the young people have income from this source. This would suggest that the pottery making skills are not being passed on to younger members of the community to the degree that they were in the past.

ASSISTANCE PAYMENTS

The number of respondents reporting income from assistance payments was surprisingly low. Whether this reflects a response bias cannot be determined. Assistance payments from the bureau of Indian Affairs were reported by one individual. Assistance payments from other sources were reported by 4.7 percent of the respondents. Of the eleven people receiving assistance payment from other sources, ten were women. The age distribution of those females receiving income from this source was dispersed over all age groups. In general, the relatively low response rate to this question is surprising.

INCOME FROM SOCIAL SECURITY

Income from Social Security was reported by 6.9 percent of the respondents. Women of all ages receiving such benefits constituted 7.5 percent of all females. However, only 50 percent of women of age 60-69 and 20 percent of those 70 and over have access to Social Security income. All the males receiving Social Security payments were 60 years of age or older. The importance of Social Security to older people is shown in Table XLIII. Of the women in the survey between 60 and 69 years of age, half had income from Social Security. As indicated by the table, Social Security payments are also an important source for older males.

UNEMPLOYMENT INSURANCE

Several other sources of income should be mentioned briefly. Only a very small portion of the population receive unemployment insurance payments. This reflects the fact that a large number of Acomas are employed in industries that are not covered by the system. To some extent this is an indication of the economic isolation of the Acoma community. One would expect that since so few Acomas are employed year-round, that a large number of individuals would have received income from this source.

TABLE XLIII

PERCENTAGE OF ACOMAS RECEIVING SOCIAL SECURITY BENEFITS

Age Group	Percent Females in Each Age Group	Percent Males in Each Age Group
All age groups	7.5	5.6
60-69	50.0	25.0
70 and over	20.0	22.2

N = 10 females; 6 males.

MOST FREQUENTLY MENTIONED SOURCES

One indication of the importance of an income source to a particular age group is the frequency with which the age group in the survey mentions the income source. The most frequently mentioned income sources for female age groups is presented in Table XLIV. Females less than 20 years of age rely most heavily on gifts. Earnings from a trade is the most important source of income for women in the 20-39 age groups. Sources of income for older women are more diversified. Note that income from handicrafts is important to women in the 50-69 age group.

TABLE XLIV
MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES
(By age)

Age Group	Most Frequently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Gifts	11.1
20-29	Earnings from a trade	40.7
30-39	Earnings from a trade	15.4
40-49	Other	20.0
50-59	Handicrafts	12.0
	Ownership	12.0
	Earnings from a trade	12.0
60-69	Social Security	50.0
	Handicrafts	33.3
70 and over	Other welfare	30.0
	Pensions	20.0
	Social Security	20.0

* Does not sum to 100 percent due to multiple responses.

The most important sources of income for Acoma males is presented in Table XLV. Income from ownership and earnings from a trade are consistently mentioned as the most important source of income. The importance of income from ownership reflects the importance of agriculture to the Acoma community. The age categories reporting earnings from ownership indicate that the initial work orientation of men is in agriculture. At some point in their twenties they seek and take jobs outside of the agricultural sector. As they

TABLE XLV

MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES

(By age)

Age Group	Most Frequently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Ownership	21.4
20-29	Earnings from a trade	40.9
	Ownership	22.7
30-39	Earnings from a trade	71.4
40-49	Earnings from a trade	54.5
50-59	Earnings from a trade	50.0
	Ownership	35.7
60-69	Ownership	43.8
	Earnings from a trade	43.8
70 and over	Ownership	33.3

* Does not sum to 100 percent due to multiple responses.

become older there is a tendency to return to the pursuits of earlier life. A return to agriculture seems to start at some time during the fifties. Such action on the part of men may depend largely on the type of job held in the other productive sectors. Those holding less favorable jobs may tend to return earlier than those with relatively better situations.

Income by Education and Sex

The level of income by educational attainment and by sex provides insights into incentives of the Acoma young to obtain education for job purposes. It provides information also on the extent to which women are successful in providing both primary and secondary income for families. To the extent that women are attached to the labor force, their importance relative to reservation men is revealed in Table XLVI. The data in the table are based on 107 male and 133 female responses. Summed horizontally the data show the percentages of both sexes in all income categories by educational attainment. Vertical summation reveals the percentages of both sexes at all educational levels by income category.

It is apparent that fewer women than men receive income from the various sources. The child-rearing responsibilities of women are largely the reason for their inactivity in employment. On the other

TABLE XLVI

INCOME BY EDUCATION AND SEX

(Percent)

		Income									
Education	Sex	$ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	0.0	0.0	0.9	0.9	0.9	0.0	0.0	0.0	0.0	2.7
	F	0.0	0.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.3
1	M	0.9	1.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	3.7
	F	0.0	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.3
2	M	0.0	0.0	1.9	0.9	0.9	0.9	0.0	0.0	0.0	4.6
	F	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8
3	M	1.9	0.9	2.8	0.9	0.0	0.0	0.0	0.0	0.0	6.5
	F	0.8	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	2.4
4	M	1.9	0.9	0.0	0.9	0.0	0.0	0.0	0.0	0.0	3.7
	F	0.8	1.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	3.8
5	M	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.9
	F	1.5	2.3	0.8	0.8	0.0	0.0	0.0	0.0	0.0	5.4
6	M	0.0	1.9	1.9	0.9	0.9	0.0	0.0	0.0	0.0	5.6
	F	0.8	0.0	1.5	0.8	0.0	0.0	0.0	0.0	0.0	3.1
7	M	0.0	0.9	0.0	0.9	0.0	1.9	0.0	0.0	0.0	3.7
	F	3.8	0.8	2.3	0.8	1.5	0.0	0.0	0.0	0.0	9.2
8	M	2.8	1.9	1.9	1.9	1.9	0.0	3.7	0.9	0.0	15.0
	F	3.8	0.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	6.1
9	M	3.7	0.0	0.9	0.0	0.9	0.9	0.9	0.0	0.0	7.3
	F	7.5	3.0	1.5	0.0	1.5	0.0	0.0	0.0	0.0	13.5
10	M	2.8	2.8	1.9	0.9	0.9	0.9	0.9	0.0	0.0	11.1
	F	9.0	3.8	3.8	0.8	0.8	0.0	0.0	0.0	0.0	18.2
11	M	1.9	1.9	0.0	2.8	0.9	0.9	0.9	0.0	0.0	9.3
	F	4.5	0.8	0.0	0.0	0.8	0.0	0.0	0.0	0.0	6.1
12	M	0.9	0.0	0.9	0.9	2.8	1.9	8.4	0.9	0.0	16.7
	F	9.8	6.8	3.0	0.8	1.5	2.3	0.8	0.0	0.0	25.0
13	M	0.0	0.0	0.0	1.9	0.0	0.0	0.9	0.0	0.0	2.8
	F	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
14+	M	0.0	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0	1.8
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Info. not available	M	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	2.8	3.7
	F	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.3
TOTAL	M	16.8	13.1	14.9	13.8	11.0	8.3	16.6	1.8	2.8	99.1*
	F	43.9	22.1	19.8	4.8	6.1	2.3	0.8	0.0	1.5	101.3*

N = 107 males; 133 females.

* Does not sum to 100 percent due to rounding.

hand, Acoma men prefer to take on the responsibilities of earning a livelihood when feasible. At the lowest-income ranges, women fare worse than do men. Twenty-two percent of women reported annual earnings of under $500; 13 percent of males had receipts in the same category. Approximately 20 percent of females are in the $500-999 bracket as opposed to 15 percent of men. Income levels of $1,000 and above are attained by more males than females. Fourteen percent of men and 5 percent of women received $1,000-1,999 during calendar 1967. Women were unable to break into the $10,000 and over category; however, nearly 2 percent of males were in a position to do so. Less than one percent of women had incomes in the $5,000-9,999 bracket; but 17 percent of Acoma men that usually worked fell in the category. Obviously income for men is much higher than for women. Female employment is largely confined to low paying relatively unstable types of employment. This is not to say that their receipts are unimportant to family welfare. It is quite the reverse. Their contribution to family income tends to be quite important as revealed earlier in the wide discrepancy between individual income and that for the family.

High school diplomas seem to be highly important for males. High school graduates comprise the largest single educational category for men with nearly 17 percent of the total. Approximately one-half of them have incomes in the $5,000-9,999 bracket. It is the largest single concentration of men in any income class throughout the entire range of educational attainments. However, 3.7 percent of males with eighth grade education fare as well. It is possible that those with lesser educations obtained their jobs in prior years and have continued in them by virtue of seniority rights. Males who seem to be most successful in the higher-income levels are those who have completed grades eight and twelve. Generally, those with high school diplomas fare as well or better than those with one or two years of college experience. The Acoma young may well consider that a high school education is an acceptable termination point in the pursuit of education. The median income range for all men is $1,000-1,999; for high school graduates it is in the $5,000-9,999 category. Thus, those with jobs that fare better in terms of annual income tend to be the ones that remained in school for the entire twelve years.

Female high school graduates, constituting approximately 25 percent of their gender, add more than do other women to family income. Even so, nearly 10 percent receive no income and another 7 percent have receipts of less than $500 annually. Three percent are in the $500-999 bracket and less than 1 percent reported falling within the $5,000-9,999 category. The median income bracket for female high school graduates is $1-499. For all females throughout the entire range of educational attainment, the median is the same. Those women with some high school attainment do better than those who have not completed some of the secondary years.

It appears that the Acoma Reservation people successful in finding jobs tend to fare better in terms of annual income if they have completed high school. The incentive to undertake education as an investment in the human resource should be present among the population. The limited opportunities available to the Indians seem to be allocated principally among those with greater education than among those with less. In this respect, skills training programs on the reservation are likely to succeed in regard to enrollment. Limited opportunities available for the Acoma on the reservation and adjacent areas indicate that training will amount to little if the people are unwilling to relocate or if measures taken to develop the reservation fail.

CONSUMPTION PATTERNS

The source and extent of income are important factors in explaining manpower utilization on Indian reservations. Income derived from particular activities in accordance with age, sex, and educational attainment provide insights into incentives to seek education for purposes of competing for scarce jobs. It is also possible to gain insights into possible avenues for training Indians to operate on-reservation businesses by analyzing how family income is spent. In addition, the nature of family expenditures provides information on the extent of consumer choice in dealing with the widest possible range of merchants. Dependence upon credit purchases tends to restrict the ability to buy from different sources. Payment for credit cost leaves even less for the individual consumer. Expenditure patterns also furnish insights into the availability of transportation to reservation Indians. This aspect of the study partially explains the ability to participate in the general labor market. The ability to compete with regard to education and skills is one problem; the availability of transportation to commute to job sites is still another. To obtain information about the above factors, respondents were asked separate questions regarding where and how their families purchased groceries, automobile repairs, and clothing.

Purchase of Goods and Services

Table XLVII reveals the places where the Acoma residents usually purchase goods and services. It is obvious that on-reservation retail facilities are nonexistent. The Indians are forced to commute to off-reservation stores in order to purchase food items, clothing, and automobile repairs.

Twenty-one percent of Acoma families do not have need for automobile repair services. Such a response indicates that one-fifth of the population is without direct ownership of transportation facilities. This means that they must either depend upon others for transportation to visit retail outlets off the reservation or must walk. The consequences seem certain with regard to labor force participation and nearly 20 percent of the population are so restricted in attempts to seek work. Job vacancy information may only come from friends and relatives. Such information is limited since the range of Indian industry and occupational experiences is also limited. Therefore, from the very start, the Acoma Reservation Indian has fewer work opportunities than others because information concerning job opportunities is limited. The lack of transportation tends to insure that this will continue to be the situation.

TABLE XLVII

WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES

(Percent)

Place	Item		
	Groceries	Automobile Repairs	Clothing
On-reservation	0.0	0.0	0.0
Off-reservation	99.6	75.8	100.0
Half and half	0.0	0.0	0.0
Do not know	0.4	3.0	0.0
None	0.0	21.2	0.0
TOTAL	100.0	100.0	100.0

N = groceries 234; automobile repairs 231; clothing 235.

The opportunity to establish and promote tribal enterprises is apparent. The entire range of goods and services could be made available to Indians on the reservation. Such tribal undertakings would provide not only employment for some of the on-reservation people, but also the experience needed in managing retail operations. The initial undertaking could well be on a tribal basis. After initial successes in business operations, the tribe could withdraw in deference to individual ownership of stores. However, it should be cautioned that credit terms with off-reservation stores may minimize the short-run ability of Indians to switch to on-reservation purchases. It should also be recognized that the median level of income appears to be too low to allow much margin for learning from mistakes.

METHOD OF PAYMENT

Reliance upon credit to purchase ordinary goods and services has the effect of reducing consumer choice; once credit is extended, particularly to families with very low incomes, the possibility of trading elsewhere is limited. This is especially true if credit is difficult to establish among off-reservation merchants, as is commonly the case with Indians. Current law makes it difficult, if not impossible under certain conditions, to recapture credit losses from Indians. For this reason, the extension of credit from off-reservation sources is likely to lead to higher prices reflecting the high risks involved in extending credit. Table XLVIII provides insights into this difficult problem.

TABLE XLVIII
METHOD OF PAYING FOR FAMILY PURCHASES
(Percent)

Method of Payment	Item Groceries	 Automobile Repairs	 Clothing
Cash	64.8	64.3	73.5
Credit	33.5	18.7	24.4
Oil company credit card		4.4	
Do not know	1.7	12.6	2.1
TOTAL	100.0	100.0	100.0

N = groceries 233; automobile repairs 182; clothing 234.

One expenditure common to all American families is that made for groceries. Credit in providing the basic food necessities is used by one-third of Acoma families. Slightly less than two-thirds usually obtain their needs on a cash basis. The greater use of cash among Acoma families relative to the three Arizona reservations studies has two dimensions. First, median Acoma family income is higher and this gives them a greater range of freedom in determining how to spend their dollars. The relatively higher incomes permit them to forego credit use for basic needs. Second, the lack of on-reservation retail outlets restricts the availability of credit. As mentioned, off-reservation merchants have less control over repayment of accounts and, therefore, may be less inclined to extend credit to Indian families. Credit terms that are provided the Indians are probably concentrated in a few stores located near the reservation that cater almost exclusively to Indian trade.

The demand for automobile repairs is not as great as that for basic subsistence items. Even so, the majority of repair services are paid for with cash. Approximately 4 percent of the population satisfy their needs by use of oil company credit cards. The use of oil company credit is limited since many either do not apply for these credit cards, or do not meet the necessary qualifications to obtain them.

Nearly 19 percent apparently receive credit directly from garages or service stations to satisfy their repair needs. The ability to use credit for such a purpose seems more limited than it is for food items.

As is the usual case, clothing purchases tend to be more on a cash basis than other consumer items. Nearly 74 percent of families usually purchase clothing with cash. One factor that must be considered is the relatively infrequent need to buy clothing. Stores that cater to the Indian population are not likely to stock a wide range of apparel; this may force the people to satisfy their needs from stores where credit arrangements are more difficult to obtain.

The 24 percent of families that do purchase clothing on a credit basis may be in the lower-income groups, which do not have the ability to patronize other outlets. Conversely, credit users may be in the upper-income ranges and have greater ability to obtain credit from merchants other than those normally catering to Indian customers.

The use of credit among Indian families is so important in explaining their freedom of choice that further analysis of its use is warranted. For this reason, we now turn to an analysis of cash and credit payments by family income group.

METHOD OF PAYMENT BY FAMILY INCOME LEVEL

Table XLIX generally indicates that the greatest use of credit is among those families in the lowest-income groups, although it is not limited exclusively to the lowest groups. Credit demands are greatest among the lowest-income families for goods necessary for subsistence, such as groceries and clothing. At the same time, the higher-income families have greater access to credit terms due to superior ability to repay. Each category of good or service will be reviewed separately.

TABLE XLIX

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	33.3	66.7	70.0	30.0	60.0	40.0
500 - 999	52.9	47.1	81.3	18.8	70.6	29.4
1,000 - 1,999	42.9	57.1	85.7	14.3	63.6	36.4
2,000 - 2,999	73.1	26.9	70.6	29.4	72.0	28.0
3,000 - 4,999	72.2	27.7	54.8	45.2	89.2	10.8
5,000 - 9,999	81.2	18.8	76.8	23.2	78.3	21.7
10,000 and over	100.0	0.0	85.7	14.3	85.7	14.3
Info. not avail.	100.0	0.0	100.0	0.0	100.0	0.0

N = groceries 229; automobile repairs 159; clothing 229.

Note: Summation is horizontally by good or service in each income category.

Groceries. Grocery items tend to be purchased entirely on a cash basis by families receiving $10,000 per year or more. The greatest use of credit is among families with incomes under $2,000 annually. Two-thirds of families in the under $500 annual income bracket usually supply their grocery needs on a credit basis. In the $500-999 category, credit purchases of groceries are usual in 47 percent of families. The percentage is higher in the $1,000-1,999 bracket, with 57 percent of families resorting to credit use to provide grocery items.

In the $2,000-4,999 brackets, there is some tendency to need less credit; slightly over one-fourth of families require such arrangements.

As family income rises over $5,000 annually, the dependence on credit for grocery needs declines. It may well be that dependence upon credit forces low-income families to frequent stores that charge higher prices. The risks involved in extending credit may very well generate higher average prices than among stores functioning solely on a cash basis. The poorest of families seem compelled to pay the credit toll because of the inability to shop elsewhere.

Auto Repairs. All family groups require some credit in automobile maintenance regardless of income level. The greatest demand (45.2 percent) for such arrangements appears to be among families in the $3,000-4,999 bracket. Next in order of magnitude (30.0 percent) is the $0-499 group. The requirement for such services, particularly among families with annual incomes under $5,000 may be closely related to the older model of vehicles owned. The inability to obtain the necessary credit to buy later model automobiles or trucks results in the purchase of older models, which can be expected to need more repairs.

Income groups above $5,000 annually may start off with later model vehicles, which require much less repair than those owned by the other groups. A majority of families in all income groups provide their repair outlays on a cash basis. A lack of ownership of any vehicles and the unavailability of credit terms to Indians is reflected in the service category.

Clothing. The purchase of clothing on a cash basis is more consistent than any other consumer item considered in the study. Credit terms are required by some families in all income categories, but its use may largely reflect family size. The lower-income families may need only clothing for work or for school; consequently, they may find the items stocked by stores normally catering to reservation people acceptable. In these stores, some credit is available. Higher-income families may frequent both those stores near the reservation that provide credit and those that do not. At any rate, most clothing needs among higher-income families may be satisfied through cash outlays whereas lower income groups may be unable to pay cash.

Summary. Greater choice in the selection of retail outlets is available to Acoma residents in the higher-income categories than to lower-income individuals. Lower-income families tend to depend largely on credit purchases for all consumer outlays and for this reason they must patronize the same stores in order to keep active credit accounts.

EXPENDITURE PATTERNS

Additional information regarding Acoma family expenditures on groceries, automobile repairs, and clothing is provided in Table L. These data both support and extend the observations provided in the previous section. The table provides data revealing the percentage of all families falling within given income categories, and family reliance upon cash or credit transactions is seen in greater detail.

Among all families usually purchasing goods and services, those in the $5,000-9,999 income category are most numerous in terms of cash outlays; they constitute 24.5 percent of families purchasing grocery items, 27 percent of those using auto repair services, and 23.6 percent of those purchasing clothing items. It should be observed that the data mentioned refer to cash purchases of such items as a percent of all purchasers. Families in the $5,000-9,999 category outnumber all others in cash payments for all items purchased. The same family income group constitutes 37 percent of grocery purchasers, 37 percent of auto repair buyers, and 31 percent of clothing purchasers. The $5,000-9,999 group does not depend upon credit for groceries as much as families with receipts in the $500-1,999 categories. The reliance of this lower-income group upon credit terms for basic food items is somewhat greater in terms of all purchasers of the item. Nearly 9 percent of all purchasers of family groceries have incomes in the $1,000-1,999 range and supply their needs by use of credit. The same group accounts for approximately 26 percent of all families using credit for food and related needs. They are followed closely by the $500-999 income group comprising 21 percent of grocery credit users.

Dependence upon credit to maintain motor vehicles is greatest among the $3,000-4,999 group. Those in the group usually using credit account for nearly 9 percent of all users and one-third of all families doing so on credit terms. The group is followed most closely by the $5,000-9,999 category. Even though families with incomes of less than $3,000 per year constitute a smaller percentage of all users of automobile services, they find it necessary to use a substantial amount of credit for repairs. The inability to command higher incomes limits their purchases of automobiles and in turn maintenance services.

Indian families with annual incomes in the $5,000-9,999 range make use of credit to provide clothing needs more than is the case with any other single groups. They require 26 percent of all clothing

TABLE L
METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL GROCERIES, AUTO REPAIRS, AND CLOTHING

(Percent)

	Method of Payment											
	Cash						Credit					
	Percent of Total Purchasing Item			Percent of Total Paying Cash			Percent of Total Purchasing Item			Percent of Total Using Credit		
Family Income	(1)Gro.	(2)Auto	(3)Cloth.	(4)Gro.	(5)Auto	(6)Cloth.	(1)Gro.	(2)Auto	(3)Cloth.	(7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	2.6	4.4	5.2	4.0	6.0	7.0	5.2	1.9	3.5	15.4	7.1	14.0
500 - 999	7.9	8.2	10.5	11.9	11.1	14.0	7.0	1.9	4.4	20.5	7.1	17.5
1,000 - 1,999	6.6	11.3	9.2	9.9	15.4	12.2	8.7	1.9	5.2	25.6	7.1	21.1
2,000 - 2,999	8.3	7.6	7.9	12.6	10.3	10.5	3.1	3.1	3.1	9.0	11.9	12.3
3,000 - 4,999	11.4	10.7	14.4	17.2	14.5	19.2	4.4	8.8	1.8	12.8	33.3	7.0
5,000 - 9,999	24.5	27.0	23.6	37.1	36.8	31.4	5.7	8.2	6.6	16.7	31.0	26.3
10,000 or more	3.1	3.8	2.6	4.6	5.1	3.5	0.0	0.6	0.4	0.0	2.4	1.8
Info. not avail.	1.8	0.6	1.8	2.7	0.9	2.3	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	66.2	73.6	75.2	100.0	100.1*	100.1*	34.1	26.4	25.0	100.0	99.9*	100.0

N = (1) Groceries = 229 (2) Auto repairs = 159 (3) Clothing = 229
(4) Cash = 151 (5) Cash = 117 (6) Cash = 172
(7) Credit = 78 (8) Credit = 42 (9) Credit = 57

* = Does not sum to 100 percent due to rounding.

credit. It may well be that they supply their needs for apparel more adequately than those in lower-income categories, but they still take on more credit to do so. It should be noted, however, that the three categories in the $0-1,999 range require the majority of all credit for clothing.

In short, it seems that greatest credit use is among families in the $5,000-9,999 income bracket. Such families have greater success in obtaining credit than lower-income families on the one hand, and on the other, this income category comprises the largest single group of families. As may be expected, the need for credit is greatest among lower-income groups. The demand for credit is related to the importance of the item to each group for subsistence. Credit use seems important to most Indian families regardless of the item in question.

NOTES

[1] Mary Roberts Collidge, *The Rain-Makers* (New York: Houghton-Mifflin Co., 1929), p. 17.

[2] Fred Eggan, *Social Organization of the Western Pueblos* (Chicago: The University of Chicago Press, 1950), p. 223.

[3] Charles C. Killingsworth, "The Continuing Labor Market Twist," *Monthly Labor Review*, XCI, 9 (September, 1968), 14.

[4] *Economic Report of the President* (Washington, D.C.: U. S. Government Printing Office, 1963), p. 232.

[5] Leon H. Keyserling, *The Role of Wages in a Great Society* (Washington, D.C.: Conference on Economic Progress, 1966), p. 65.

[6] *Ibid.*

Chapter 5

The Laguna Reservation

The Laguna Reservation is located approximately 45 miles west of Albuquerque, New Mexico, and is adjacent to the Acoma Reservation, which was also studied. The origins of the Laguna population are reported to be linked to the Acomas; the Lagunas, too are Pueblos. The reservation itself takes its name from the village of Laguna founded in 1697.[1] Currently, there are seven reservation villages. The Laguna men have traditionally preferred to engage in stockraising and farming. Partly for this reason, the population has shifted location over the years in search of more adequate water supplies. Farming villages have been established around irrigable areas.[2] Internal political dissension also caused a movement on the part of some Lagunas The maximum acreage recorded as being irrigated was 2,546 acres in 1911.[3] In 1959, reservation range land totaled 404,763 acres with a carrying capacity of 11,355 sheep and 902 cattle.[4]

The Laguna Indians are considered relatively progressive in that they have been more willing than many tribes to accept new ideas and techniques.[5] Two basic reasons have been offered for the greater progressiveness. First, tribal land is located on a main railroad line and recently on a major highway. Isolation from the general population has not been as acute as among the majority of Southwest tribes. Second, some of the missionaries and teachers of past years have married into the tribe and at times have even served as tribal governors. Through their tribal position, they have been able to exercise considerable influence over the direction of the people. In addition, early tribal teachers have been so influential that considerable emphasis continues to be placed on education.

Among the Lagunas, the basic economic unit shows less movement toward the immediate family than is the case with the Acomas. Lagunas are deemed to be more inclined toward the extended maternal household as the basic economic unit than are the Acoma.

This study deals with on-reservation employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

ON-RESERVATION NONFARM EMPLOYERS

On-reservation opportunities to work in nonfarm occupations are limited. Table I provides information roughly indicating the number of jobs available on the reservation. It should be observed that the Bureau of Indian Affairs does not have offices on Laguna land, but is located in Albuquerque, New Mexico. Employment figures are lower than they would be if the BIA were located on the reservation.

TABLE I
LAGUNA RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed
U. S. Public Health Service	11
Electronics manufacturer	121
Laguna Tribe	63
Trucking	8
Drilling firm	8
Trading posts	19
TOTAL	230

The most important contributor to job opportunities is an electronics factory. It provided 121 Indian jobs as of May, 1968, more than half of the reservation employment opportunities. The factory offers a variety of assembly jobs.

The Laguna Tribe offers employment through its governmental responsibilities. Councilmen, representing the various reservation areas receive renumeration from the tribe and, therefore, are included in the employment total along with other tribally-elected officials. In addition, various maintenance projects are required and a number of workers are employed to care for Indian property. The general services provided by most local governments are the responsibility of the Laguna authorities.

Trading posts on the reservation require nineteen Indian workers to work at such tasks as store clerks and gas station attendants. Also, an Indian Health Clinic operated by the U. S. Public Health Service on the Laguna Reservation requires the services of eleven Lagunas. Table I shows that trucking and also drilling firms each provide employment to eight individuals. These firms subcontract from the Anaconda Company. For Laguna employment opportunities to be substantial, off-reservation sources may have to be encouraged to hire Indians.

The reservation does not appear to have utilized the employment possibilities of tourism and recreational land uses, as reflected in Table I. The lack of an adequate water supply has also impeded agricultural development at the time that the need for products from small farming units has diminished. To a large extent, then, Lagunas must look to off-reservation employment opportunities. Past educational efforts on the reservation are important in assisting their endeavors in the general unsheltered labor market. Appropriate current educational efforts depend upon the current state of the population and its potential. The overall manpower characteristics of the population are examined here first.

CHARACTERISTICS OF THE MANPOWER RESOURCE

AGE AND SEX

As Table II shows, females represent 54 percent of the Laguna on-reservation population age 16 or over, and males account for 46.2 percent. For men, the largest age group is the 30-39 category, which accounts for 22.5 percent of males and 10.4 percent of the working-age population. For women, the 20-29 category is most numerous; it consists of 22 percent of all women and nearly 12 percent of the total working-age population. Males in the 20-29 group constitute only 9.6 percent of the working-age group. Women in their thirties are less numerous than those aged 20-29, but represent the same percentage (10.4) of the working-age population as do males. The 40-49 age group shows significant imbalance between the sexes with women representing over 10 percent and men representing only 6.5 percent of the working-age population. The age categories from 20-49 hold 60.7 percent of all working-age women and 57.5 percent of all working-age males. Together, these ages constitute 59 percent of the total working-age population. In terms of age, then, the majority of Laguna Indians are in prime employment age categories. Other characteristics of the human resource and of the general labor market may restrain the manpower potential, but the initial observation is favorable.

TABLE II

LAGUNA POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	9.3	5.0	7.5	3.5
20-29	22.1	11.9	20.8	9.6
30-39	19.3	10.4	22.5	10.4
40-49	19.3	10.4	14.2	6.5
50-59	11.4	6.2	10.0	4.6
60-69	10.0	5.4	7.5	3.5
70-79	7.9	4.2	10.8	5.0
80-89	0.0	0.0	6.7	3.1
90-99	0.7	0.4	0.0	0.0
TOTAL	100.0	53.9*	100.0	46.2*

N = 140 females; 120 males.

* The two categories combined do not sum to 100 percent due to rounding.

Teen-age Laguna Indians provide 8.5 percent of the working-force potential. The Indian Manpower Resource Study (IMRS) survey shows teen-age females (5 percent of the working-age population) to be slightly more numerous than males (3.5 percent of the working-age population) in the age category. The labor force demands are relatively lower for teen-age individuals, in part because they have less education and experience than is often required.

Employment possibilities for individuals in their fifties and sixties are also reduced. Laguna Reservation individuals 50-69 account for nearly 12 percent of the working-age population, and men of this age represent 8 percent. Those 70 years and older are normally not considered as being employable. Exceptions may exist, however, in activities associated with tribal crafts that can be marketed.

The Laguna labor force potential in general appears to have a larger force of women than of men. Little labor activity by persons over 69 years of age except in handicrafts or agriculture is expected. Further, the unemployed among the younger age groups obviates the need to hire persons of advanced age.

Additional manpower characteristics of the Laguna can be cited from the survey results.

FAMILY CHARACTERISTICS

Family responsibilities provide initial insights into the need for individuals to attach themselves to the labor force. Marital status may be taken as a rough indicator of such need. Married persons are more likely to be both primary and secondary labor force participants than are single persons. Table III reveals the marital status of the Laguna on-reservation respondents.

TABLE III
MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	57.9
Widowed	9.1
Divorced	1.2
Separated	3.2
Never-married	28.7
TOTAL	100.1*

N = 254
* Does not sum to 100 percent due to rounding.

Marital Status. Nearly 58 percent of the population aged 16 and over are married; and about 29 percent have never married. The lack of on-reservation employment opportunities may be a factor in the relatively high percentage of never-married. That is, the inability to provide economic well-being for families may lead to the postponement or to the foregoing of marriage. The imbalance of male and female population may not be as crucial among the Pueblo Indians as with other tribes since they have intermixed with other tribes to a greater extent than have some other groups. It may be that the inability to cover the geographical distance between the tribes affects the likelihood of intertribal marriages. The lack of economic opportunities on a reservation, however, appears to offer the best explanation.

Widowed individuals account for 9 percent of the working-age population. This status may be the reason for reservation residence among younger females, particularly if young husbands die while away from the reservation on jobs. Widows and their children are likely to return to the extended family. Most of those widowed are very probably, however, among the elderly since population declines are more pronounced after age 49 as shown in Table II.

The survey reveals that divorced and separated individuals account for 4.3 percent of the population with those divorced representing 1.2 percent, and those separated 3.2 percent. Information was not solicited regarding reasons for family breakup, but the instability may be less than these percentages indicate since many of those separated may eventually return to their mates. The overall family structure among the Laguna people appears to be stable.

Number of Children. Table IV reveals from 251 responses from all marital categories that the median number of children reported

TABLE IV
NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	31.9
One	11.2
Two	12.4
Three	10.0
Four	8.4
Five	8.8
Six	8.8
Seven	3.2
Eight or more	5.6
TOTAL	100.3*

N = 251
* Does not sum to 100 percent due to rounding.

by individuals is two. It should be noted that the never-married responses are included. About 12 percent of respondents reported two children. Numerous individuals in the population, however, have large families as is apparent from the number of responses in the four, five, and six children categories. Nearly 32 percent of the respondents do not have children.

Table V provides data revealing the number of children by marital status. Elimination of the never-married from a calculation of median children gives a more accurate basis for speculating on the extent of family responsibilities. The never-marrieds are included to the extent that they report having children. Six is the median number of children reported by the Lagunas other than the never-marrieds. Approximately 86 percent of single individuals over 16 years of age report no children, but 8.2 percent report having one child.

TABLE V
NUMBER OF CHILDREN BY MARITAL STATUS
(Percent)

Marital Status		Number of Children									Info. not Avail.	Total
		1	2	3	4	5	6	7	8+	0		
Married	(1)	13.5	15.5	14.9	11.5	12.8	13.5	2.0	8.8	5.4	2.0	99.9
	(2)	7.7	8.9	8.5	6.5	7.3	7.7	1.2	5.0	3.1	1.2	57.1
Widowed	(1)	4.4	17.4	13.0	13.0	13.0	4.4	13.0	4.4	17.4	0.0	100.0
	(2)	0.4	1.5	1.2	1.2	1.2	0.4	1.2	0.4	1.5	0.0	9.0
Divorced	(1)	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	100.0
	(2)	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.0	0.8
Separated	(1)	0.0	50.0	12.5	0.0	0.0	0.0	12.5	0.0	25.0	0.0	100.0
	(2)	0.0	1.5	0.4	0.0	0.0	0.0	0.4	0.0	0.8	0.0	3.1
Never-married	(1)	8.2	0.0	0.0	0.0	0.0	0.0	1.4	0.0	86.3	4.1	100.0
	(2)	2.3	0.0	0.0	0.0	0.0	0.0	0.4	0.0	24.2	1.2	28.1
Info. not avail.	(1)	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	50.0	100.0
	(2)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.2	2.4
TOTAL	(2)	10.8	11.9	10.1	8.1	8.5	8.1	3.2	5.4	30.8	3.6	100.5*

(1) = Percent of total in each marital status category.
(2) = Percent of total responses.
* Does not sum to 100 percent due to rounding.

Married respondents disclosed a median of four children. The median number of children for the widowed category is five, for the divorced it is four, for the separated it is two. The medians revealed by the various groups, however, do not necessarily represent dependent children. No attempt was made to learn the ages of children reported. The data do indicate an average family size of four among the Laguna. Family size is an indicator that Laguna men have responsibilities and considerable incentive to seek work. Family size also indicates that the additional worker function normally provided by married women and children may be large for Lagunas relative to many other Indian tribes. This assertion is premised partly on the nearness to off-reservation employment. The desire for employment may not always be expressed by actively seeking a job since many factors influence such a decision.

EDUCATIONAL ATTAINMENT OF THE POPULATION

The modern world of work is characterized by an increasingly greater education attainment requirement at entry levels. That is, employer hiring standards generally reflect the demand for more education than has been the case in previous years.[6] Educational requirements for initial hiring become even more demanding in areas with persistent unutilized pools of labor. The last year of formal education completed is usually taken as an indicator of the ability of individuals to perform skilled and unskilled tasks with a minimum of on-the-job training. In addition, formal educational attainment is considered important to the adjustment to continuously changing functions to be performed. Table VI illustrates the educational attainments of working-age Lagunas.

On-reservation Laguna females are likely to remain in school longer than males. Median educational attainment for women is eleven years, but only ten for men. Women are also more likely to both enter and remain in college longer than men. Slightly less than 1 percent of women had completed college educations. Two years of college training is the highest educational attainment for men; this degree of education was attained by only 1.7 percent of working-age males. Laguna women with some college experience account for 3.5 percent of the total working-age population whereas less than 1 percent of men have had as much education.

The agricultural orientation of the reservation is reflected most among the on-reservation men by a review of high school completions relative to women. Only 27.5 percent of men have completed high school, whereas 33.6 percent of women received diplomas. The

TABLE VI
EDUCATIONAL ATTAINMENT OF THE POPULATION

Educational Attainment by Grade Completed	Female		Male	
	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	0.4	0.7	2.3	5.0
1	0.4	0.7	0.0	0.0
2	0.4	0.7	0.4	0.8
3	0.8	1.4	1.9	4.2
4	0.8	1.4	0.8	1.7
5	1.2	2.1	1.5	3.3
6	2.3	4.3	2.7	5.8
7	1.9	3.6	1.2	2.5
8	5.0	9.3	3.5	7.5
9	4.2	7.9	3.9	8.3
10	8.1	15.0	6.9	15.0
11	5.4	10.0	6.5	14.2
12	18.1	33.6	12.7	27.5
13	1.5	2.9	0.0	0.0
14	0.8	1.4	0.8	1.7
15	0.8	1.4	0.0	0.0
16	0.0	0.0	0.0	0.0
17+	0.4	0.7	0.0	0.0
Info. not available	1.5	2.9	1.2	2.5
TOTAL	54.0*	100.0	46.3*	100.0

N = 140 females; 120 males.
* The two categories combined do not sum to 100 percent due to rounding.

requirements placed upon men to perform agricultural and related duties is reflected in the high school completion records of the sexes. Women are not as apt as men to be required to remain away from classes either to work on family land or to hire out to agricultural recruiters in the spring or other times of the year. Therefore, they are more likely to complete high school than young Indian men.

Sixty-five percent of all Laguna men 16 and over have some experience with high school instruction. However, they account for only 30 percent of the reservation population age 16 and over. Approximately 66 percent of women have completed at least one year of high school training as may be seen in Table VI, but all female experiences with secondary school constitute 36 percent of the population. More Laguna women than men have some high school training.

Laguna men with eight years of formal training or less represent 31 percent of all men whereas women with no high school represent 24 percent of tribal women. Together, those with no high school credit total 27.3 percent of the 16 and over population.

Five percent of tribal men are without a single year of completed formal education whereas only 0.7 percent of women are so handicapped. It seems apparent that those without formal educational experience are concentrated among the elderly unless physical or mental deficiences restrict some of the younger people.

The educational attainments of the Laguna people reflect long standing agricultural orientations. At the same time the attainment levels are comparable with those of the nonwhite general labor force. As of March, 1967, nonwhite females attained a median of 11.5 years; for nonwhite males it was 10.2.[7] For the Laguna women and men, it is currently eleven and ten, respectively. However, the U. S. data do not include 16 and 17 year olds. Lagunas are, therefore, in roughly the same educational attainment position as the general nonwhite labor force. Improvement in education is needed, but it is not as pressing as among many other Southwestern tribes.

Facility with English. The agricultural influence upon Lagunas is reflected in the ability to utilize the English language. Several questions were asked of respondents in an attempt to gauge their competence in basic communications. The first question was: "What language is spoken most frequently in your home?" Seventy percent of the population communicate in English most frequently in the home. However, 30 percent continue to rely on their Indian language in the home. This may be an indication that efficiency with English is lost or has never been achieved. Replies to the question indicate that some basic language instruction is needed before many Indians could execute job-related instructions without need of interpreters.

Respondents were also asked: "Do you speak English?" Ninety-five percent replied in the affirmative. Only 5 percent consider that they are unable to communicate in the language. As mentioned, the percentage may well be much greater because of the widespread tendency to use the Indian language in the home. Still another question was asked to ascertain English ability: "Do you read English?" Ninety-two percent feel they can do so; eight percent cannot. The discrepancy between those who consider they can speak but not read English is reflected in the possible range of illiteracy revealed in Table VI. Some may very well be able to speak, but due to their lack of training are unable to read.

In summary, it appears that basic communications may be a considerable problem among the Laguna. The tendency of nearly one-third of the population to use the Indian language most frequently in the home indicates a possible loss of efficiency in the use of English. Basic language instruction for the Lagunas may well be required in addition to skills training for greater employability.

UTILIZATION OF THE HUMAN RESOURCE ON THE LAGUNA RESERVATION

No accurate records of people residing on the Laguna Reservation were available prior to this study. A list maintained by the Bureau of Indian Affairs was modified in order to arrive at the sampling frame. A sample of 527 was drawn from the modified BIA list. Of this 527, 52 percent are known to be on the reservation. On the basis of this information, the Laguna population aged 16 and over is estimated at 1,064. This was the size of the reservation's total working-age human resource at the time the survey was conducted.

There are various indices of manpower utilization. The labor force participation rate is one such index. The participation rate indicates the extent to which Lagunas are committed to the labor market. Unemployment rates provide another means of indicating the degree of utilization. The latter reveals the extent to which those in the labor force are being utilized. The unemployment rate is not a comprehensive measure since some people that are considered employed may only be employed part-time or on a seasonal basis even though they desire full-time, year-round employment. Various indices of manpower utilization will now be reviewed.

LABOR FORCE PARTICIPATION

The people contacted in the survey were asked about their primary activity in the year prior to the survey. Their responses are presented in Table VII.

Almost 45 percent of the people interviewed reported that their primary activity during the year prior to the survey was working. An additional 3 percent of the respondents reported that they were with a job, but not at work, or that they were looking for work. These two groups comprise those people of the Laguna Reservation who are in the labor force. Table VII shows that about 47 percent of the Laguna working-age population are in the labor force. This compares to a labor force participation of 59.4 percent for the United States.

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	44.8
With a job but not at work	0.4
Looking for work	2.7
Keeping house	25.3
Going to school	11.9
Unable to work	8.1
Retired	4.6
Other	2.3
TOTAL	100.1*

N = 261

* Does not sum to 100 percent due to rounding.

Thus, the labor force participation rate on the Laguna Reservation is approximately 80 percent of the U. S. labor force participation rate.

The comparatively low rate of labor force participation on the Laguna Reservation may be in part due to age distribution. The data suggest that there may be slight differences in the age distributions of the United States and the Lagunas. An examination of Table VIII reveals these differences. It can be seen that the percentage of adult Lagunas in the 30-60 year old groups is below the percentage of people in the United States that are in the same age bracket. Since this is the age bracket that is likely to have the highest labor force participation rate, the Laguna age distribution may contribute to a lower labor force participation rate in the Laguna community. Note also the relatively high proportion of Laguna residents who are seventy years of age or older. This group is likely to have low labor force participation rates.

An important factor in the Laguna age distribution is the off-reservation employment pattern of many members of the Laguna community. Many Laguna males leave the reservation during their middle years to take employment with the Santa Fe railroad or to seek other jobs in the cities. The Laguna people have had a long standing agreement with the Santa Fe railroad that in exchange for right-of-way privileges, employment opportunities would be granted the members of the tribe. What the Lagunas call "colonies," have sprung up along the Santa Fe mainlines, the largest of which is located in Barstow, California. Some people leave the reservation for twenty or thirty years. Meanwhile, their residence may remain empty and fall into disrepair. Upon returning, they may repair their residence and resume their life on the reservation. Some may develop ties elsewhere and never return.

Although some Indians in the United States are reluctant to leave their reservations, this does not appear to be the case for the Laguna community. Whereas, the BIA population register for the Pueblo of Laguna contains 3,203 names of Lagunas, 16 years of age or older, the survey results support the estimate that only 1,064 are on the reservation. Some of the "missing" Lagunas are deceased, but most are residing in places like Barstow, Albuquerque, or even Chicago. Lagunas appear to move, and often to distant places. Why is it that the Lagunas are likely to move and other Indians are reluctant to do so? One factor present on the Laguna Reservation and not in most

TABLE VIII

AGE DISTRIBUTION: LAGUNA AND UNITED STATES

(Percent 16 years of age or older)

Age Group	Laguna	U. S.
16-19	8.5	8.7
20-29	21.5	17.9
30-39	20.8	20.2
40-49	16.9	18.6
50-59	10.8	14.9
60-69	8.9	11.1
70 and over	12.7	8.5
TOTAL	100.1*	99.9*

N = 260

* Does not sum to 100 percent due to rounding.

Source: *U.S. Census of Population, 1960,* for U.S. age distribution.

other Indian communities, is the employment opportunities with the Sante Fe railroad. One is tempted to conclude on the basis of these observations, that it is the lack of economic opportunity off the reservation that keeps many Indians from leaving the reservation.

Labor force participation is related to age. Table IX presents labor force participation rates by age groups for both the Laguna population and the United States as a whole. The most noteworthy fact shown in Table IX is that the Laguna participation rate for the 30-39 age group is above the rate for the United States. Of the fifty-four individuals in the survey that are between 30-39 years of age, thirty-nine are in the labor force. Although the difference between the U. S. rate and the Laguna rate could be explained by sampling variation, it appears that the Laguna rate compares well with the U. S. rate. In fact, the labor force participation rates for all groups in the 20-59 age bracket are reasonably high, as compared to the other tribes in the study. Those workers below 20 years of age and over 59 years of age have relatively low labor force participation rates. The young are usually in school, and the older men may have become discouraged, or they may have retired.

TABLE IX

CIVILIAN LABOR FORCE PARTICIPATION RATES:
LAGUNA RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Laguna	U. S.
16-19	22.7	44.2
20-29	51.8	67.0
30-39	72.2	70.3
40-49	54.5	73.4
50-59	60.7	74.2
60 and over	16.1	29.5
All age groups	47.3	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

High labor force participation is the case for both males and females. Labor force participation rates for female Lagunas are presented in Table X. There appears to be a stability of labor force participation over all age groups. Note that for the sample, the labor force participation rate for females in the 30-39 age group was almost equal to the U. S. rate for the same group. Some of the small differences in labor force participation may be due to sampling variation. The difference between the U. S. and the Laguna female participation rates can be attributed to what appears to be relatively low participation of the 40-59 age group. Notice the relatively high rate for Lagunas over 60 years of age. The data suggests that female Lagunas have a relatively strong attachment to the labor force.

TABLE X
FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
LAGUNA RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Laguna	U. S.
16-19	30.8	37.4
20-29	45.2	49.2
30-39	44.4	45.2
40-49	37.0	52.2
50-59	37.5	55.9
60 and over	38.5	17.8
All age groups	33.6	41.5

Source: Manpower Report of the President, 1964, for U.S. rates.

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES:
LAGUNA RESERVATION AND UNITED STATES
(Percent by age group)

Age Group	Laguna	U. S.
16-19	11.1	51.4
20-29	60.0	88.0
30-39	100.0	97.8
40-49	82.4	96.3
50-59	91.7	92.3
60 and over	26.7	44.2
All age groups	63.3	79.7

Source: Manpower Report of the President, 1964, for U.S. rates.

Labor force participation rates for Laguna males are presented in Table XI. Note again the very strong rate for participation of males between the ages of 20-29. Younger and older males on the Laguna Reservation, however, appear to have rates well below the national average. Again, it may be observed that there is a high rate of participation of males in the 30-39 age group; of the twenty-seven males in the survey who are in this age group, every one is in the labor force. The data suggest a strong attachment to the labor market on the part of Laguna males.

Several factors emerge from the evaluation of labor force participation rates on the Laguna Reservation compared with the U. S. rates. First, the Indian labor force participation rate is approximately 80 percent of the U. S. rate. Second, some of the difference in the participation rates may be attributed to the age distribution of the Laguna population that resides on the reservations. Finally, for certain age groups, labor force participation rates on the Laguna Reservation are comparable to the U. S. rates.

REASON FOR NOT ENTERING THE LABOR FORCE

Approximately 53 percent of the respondents 16 years of age and over residing on the Laguna Reservation are not in the labor force.

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work is available	10.6
Couldn't find work	4.5
Lacks necessary schooling, training, or experience	17.7
Employers think too young or too old	14.2
Personal handicap	5.3
Can't arrange for child care	10.6
Family responsibilities	37.5
In school or other training	14.3
Ill health or physical handicap	25.0
Other	12.5
Don't know	12.7

N = 113

* Does not sum to 100 percent due to multiple responses.

Persons in this group may be thought of as not having a job and not looking for a job. Except for males in 30-39 age group, the percentage of Lagunas of all ages in this category is higher than the national average. The question naturally arises as to why these people fail to seek employment. It should be noted at the outset that the peculiar life work pattern of the Lagunas might offer some form of explanation for the relatively high percentage of people not in the labor force. Perhaps if all members of the Laguna community, including those presently residing off-reservation due to the employment opportunities offered to them at off-reservation locations, were included in the survey, the labor force participation rate of the Laguna population might come closer to the rate of participation for the United States. The data retrieved in this study do not support an answer to this important question.

The respondents were asked: "If you are not looking for work, what are the reasons you are not looking for work?" This question was asked only of those individuals who were not working during the year prior to the survey. The replies to this question are presented in Table XII.

TABLE XIII

AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK DUE TO ILL HEALTH OR PHYSICAL DISABILITY

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	6.3	16.7
30-39	6.3	0.0
40-49	18.8	16.7
50-59	25.0	8.3
60-69	37.5	8.3
70-79	6.3	33.3
80 and over	0.0	16.7
TOTAL	100.2*	100.0

N = 16 females; 12 males.

* Does not sum to 100 percent due to rounding.

The reason given most frequently for not seeking work was family responsibilities. More than 37 percent of the people responded that they were not looking for work for this reason; almost all of them were women and only 7.7 percent of the women had never been married. Ill health or physical handicap was the second most frequently mentioned reason for not seeking employment. Twenty-five percent gave such reasons; it is likely that most of these are older than the population in general since illness and disability are likely to be associated with age. The age distribution of those with ill health or physical disability is presented in Table XIII. It would appear that this group is older than the population in general. However, it is clear that not all persons with health problems are old. The table suggests also that deterioration of health may be an important reason for the withdrawal of women from the labor market.

Another 14.2 percent replied that they were either too young or too old to obtain work. Nearly all the respondents giving such answers were below 20 or above 59 years of age. Persons between the ages of 50 and 59 years of age did not consider that they were too old to work. Not one of the fifty-six individuals in their 20's responded that they were too young to work. This pattern of responses is quite different from that found on some other Indian reservations. It reflects an apparently strong commitment to the labor market on the part of the Laguna people.

Many believe that labor force withdrawal is related to the individual's belief that no work is available. On the Laguna Reservation, those not seeking work for this reason amounted to 10.6 percent of those not seeking employment. It may be possible to attract these individuals into the labor force. Another 4.5 percent responded that they were not seeking employment because they could not find work. This group also appears to have some commitment to the labor market. In addition to both of these groups, 17.7 percent of the population responded that they did not seek work because they lacked the necessary training or experience. The implication is that if training were provided, these people would enter the labor market. It would appear that a relatively large number of individuals on the Laguna Reservation are being kept out of the labor market because of insufficient training, experience, and lack of economic opportunity.

EMPLOYMENT EXPERIENCE OF THOSE NOT USUALLY EMPLOYED

Those persons who were not usually working in the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable replies were received from 110

Lagunas; approximately 95 percent of them were not in the labor force. The responses to this question are contained in Table XIV. Of those not usually employed during the year prior to the survey, 33.6 percent have never worked and 39.1 percent have not worked for five or more years. This represents 72.7 percent of those not usually employed. The group as a whole appears to be isolated from the labor force and has been for years. Short-run factors are not likely to attract this group of people back into the labor market.

TABLE XIV

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	13.6
One to two years ago	7.3
Two to three years ago	3.6
Three to four years ago	1.8
Four to five years ago	0.9
Five or more years ago	39.1
Never worked	33.6
TOTAL	99.9*

N = 110

* Does not sum to 100 percent due to rounding.

The proportion of Laguna individuals that has never worked is relatively small when compared to similar groups on other reservations in this study. Of the twenty-nine who never have worked, twenty-four are women, and most of the women are married. The age distribution of these women is centered around the 30-49 age groups. The data would suggest that marital status is a good explanation for women not working; age does not appear to provide the basic reason. The income levels of men also influences the decision for or against women working.

Of the thirty-seven respondents who never had worked, eight are students. Of the remaining twenty-nine, twenty-four are women and five are men. Two of the men are under 20 years of age and three women who never worked are less than 20 years of age. The median years of education of females who never worked is eight years, which compares to a median of eleven years for all Laguna females.

Of the forty-two Lagunas who have not worked for five or more years, twenty-seven are women and fifteen are men; of these women, 14.8 percent have never been married. The age distribution of women is dispersed over all age groups as illustrated in Table XXV. All but one of the males is 60 years of age or older. In fact, 80 percent of the men who had not worked in five or more years are 70 years of age or older. The education level of women who have not worked for five or more years is only slightly below the education level for all Laguna women residing on the reservation. The median level of education for women who have not worked for five or more years is ten years as compared to eleven years for all females on the reservation. The median years of education for men who have not worked for five or more years is five years as compared to a level of ten years for all men residing on the Laguna Reservation. This relatively low level of education reflects the age distribution of males who have not worked for five or more years. These data add support to the proposition that family obligations are likely to keep Laguna women out of the labor market. Advanced age keeps Laguna men out of labor market.

TABLE XV

AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	0.0
20-29	7.4	0.0
30-39	18.5	0.0
40-49	18.5	6.7
50-59	18.5	0.0
60-69	18.5	13.3
70 and over	18.5	80.0
TOTAL	99.9*	100.0

N = 27 females; 15 males.

* Does not sum to 100 percent due to rounding.

Individuals who were not usually employed during the year previous to the survey but were employed at some time in the past were asked why they left their last job. Table XVI shows the reason given most frequently is "personal, family, or school." Health, retirement, and old age are also important reasons. The next four categories in Table XXVI refer to conditions of the labor market as being the cause for leaving last jobs. Cyclical problems affecting Indian employment are likely to lead to long-term if not permanent withdrawal from the labor market. These people could possibly be recruited back into active participation if employment opportunities were expanded.

TABLE XVI
REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family or school	45.7
Health	14.3
Retirement or old age	15.7
Seasonal job completed	1.4
Slack work or business conditions	4.3
Temporary nonseasonal job completed	8.6
Unsatisfactory work conditions	2.9
Other	7.1
TOTAL	100.0

N = 70

UNEMPLOYMENT

Respondents were asked what their major activity was during most of the year previous to the survey. (Table VII contains the responses to the question.) The concept of unemployment used in this study is best described as that of being usually unemployed during the year previous to the study. It should be noted that an individual may have done some work during the year, but if he was not working most of the year he is eligible to be counted as unemployed. In addition to not usually working most of the time, the usually unemployed person must have looked for work most of the year prior to the study. Those who were not looking for work because they believed no work was available are not counted as being unemployed by the Bureau of Labor Statistics. The decision was made for purposes of the Indian Manpower Resource Study to count such persons as not being in the labor force. This exclusion from the unemployed category reflects the position that those people who spent most of one year believing that no work was available in the community and did not look for work are best described as alienated from the labor force. The exclusion from the unemployed category of those who believe that no work is available reflects the fact that the IMRS questionnaire focused on activity over the year prior to the survey, whereas the Current Population Survey focuses on the previous week.

Of the 261 usable responses received on the Laguna Reservation only seven indicated that the respondent was unemployed for most of the year prior to the survey, and six of these are men. The overall unemployment rate for the Laguna Reservation is estimated at 5.7 percent. The unemployment rate for U. S. males is 7.9 percent. The male unemployed have no special characteristics that could distinguish them from other males on the reservation. All of the male unemployed are between 20 and 49 years of age; one is married, one is divorced, and the others were never married.

The previous sections have been directed to those who were usually unemployed; that is, those who spent most of the year prior to the survey looking for work. Another insight into unemployment can be gained by looking at that group that did not work at all during the year prior to the survey. This group includes those that were totally unemployed and those that were not in the labor force.

Of those that did not work at all during the year prior to the survey, 6.5 percent looked for employment at some time. Looking for work, however, may not have been their primary activity during the year. Included in this group, for example, could be housewives whose primary activity was keeping house, but who looked for a job at some time. Table XVII shows that some of those who sought work, sought part-time work only. Others were willing to take either full- or part-time work.

TABLE XVII

PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK

(By type of work)

Category	Percent
Full-time	1.6
Part-time	1.6
Both	3.3

N = 122

The people contacted various sources in their attempts to find work. While the data are not sufficient to define any definite job search pattern, a number of interesting, but not surprising, facts emerge. The Bureau of Indian Affairs is rarely contacted in the attempt to find employment. This is not surprising since the BIA does not have a full time representative on the reservation. The BIA office is located in Albuquerque some 45 miles from the reservation. In addition, the New Mexico State Employment Service does not appear to be a frequent source of job information. This state agency does not have a full-time office on the reservation, although frequent visits to the reservation are made. In general, it would appear that these public agencies do not provide the vital link between the unemployed and information about job opportunities that may be necessary to generate greater labor market activity.

UNDEREMPLOYMENT

Labor force participation and unemployment rates provide only a partial description of the activity of the Laguna population. Either of these measures taken alone is misleading. Even a combination of these measures fails to describe manpower utilization on the Laguna Reservation since it fails to include the irregularity of employment and the fact that employment may be on a less than full-time basis. The sections that follow provide an overall view of all the important factors combined.

About 60 percent of the females and 31.7 percent of the males responding to the IMRS survey did not work during the year prior to the survey. As shown in Table XVIII, of the 136 respondents that

TABLE XVIII
DISTRIBUTION OF THOSE WHO DID SOME WORK
BY NUMBER OF MONTHS WORKED

Months Worked	Percent
1 - 3	9.6
4 - 6	12.5
7 - 9	10.3
10 - 12	67.7
TOTAL	100.1*

N = 136
* Does not sum to 100 percent due to rounding.

reported they did some work in the year prior to the survey, 67.7 percent reported that they worked between ten and twelve months. This rate of response is higher than was found on any of the other reservations covered in this study. Respondents to the questionnaire were also asked if their work was year-round, irregular, or seasonal. The responses to this question are reported in Table XIX. Of those responding, 71.5 percent reported that they work year-round. This means that some people working less than ten months regard their employment as being on a year-round basis. Note that 11 percent of the respondents engaged in seasonal employment and 16.8 were employed on an irregular basis. The fact that more than 25 percent of those reporting that they did some work are dependent on seasonal or irregular employment suggests that at any given time there are likely to be a substantial number of people not gainfully employed. The seasonal employment pattern is presented in Table XX. Seasonal employment does not vary substantially from season to season although different people are likely to be employed in different seasons.

TABLE XIX

USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	71.5
Seasonal	11.0
Irregular	16.8
TOTAL	99.3*

N = 136

* Does not sum to 100 percent due to rounding.

TABLE XX

DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed*
Spring	31.3
Winter	43.8
Fall	31.3
Summer	37.5

N = 16

* Does not sum to 100 percent due to multiple responses.

To summarize the information presented thus far, labor force participation rates on the Laguna Reservation are high and unemployment rates, while above the national average, are not drastically high. This information suggests two things: First, the Laguna Reservation appears to be less isolated from the U. S. economy than are some of the other reservations. Second, methods generally used to measure the labor force participation of the general population are not suited to obtain manpower information on Indian reservations. Reference to a U. S. labor force participation rate of 60 percent means that 60 percent of the working-age population is in the labor market, either with a job or seeking employment. Assuming a moderate unemployment rate, the number of people actually employed most of the time is approximately 95 percent of the labor force participation rate or 57 percent of the age 16 and over population. This is not so on the Laguna Reservation and is probably even less the case on many of the other reservations. At Laguna, only 35.7 percent of the population worked between ten and twelve months in the year prior to the survey. Year-round utilization of the U. S. population 16 years of age or older is approximately 60 percent higher than the year-round utilization of the Laguna population. The difference can be attributed to a somewhat lower labor force participation rate on the Laguna Reservation, but it also reflects the seasonal and irregular nature of employment in Indian communities.

TABLE XXI

AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED

(Percent)

	Months Worked				
Age Group	0	1-3	4-6	7-9	10-12
16-19	10.7	15.4	17.7	7.1	3.2
20-29	15.6	46.2	64.7	35.7	16.0
30-39	11.[illegible]	23.1	5.9	28.6	34.0
40-49	14.8	15.4	0.0	14.3	23.4
50-59	9.8	0.0	0.0	14.3	14.9
60-69	13.1	0.0	5.9	0.0	6.4
70 and over	24.6	0.0	5.9	0.0	2.1
TOTAL	100.1*	100.1*	100.1*	100.0	100.0
Number in each group	122	13	17	14	94

* Does not sum to 100 percent due to rounding.

The relationship between age and number of months worked is presented in Table XXI. The table suggests that a high proportion of those working half of a year or less are younger workers. Persons in the 30-49 age group dominate the jobs that provide year-round employment.

Marital status is also related to the number of months worked. Table XXII suggests that married women are most likely not to work. If they do work, however, they are likely to work ten to twelve months. Married men are likely to work year-round. Table XXIII suggests that the never-married Lagunas are much less likely to work year-round. The lack of work may assist in decisions never to marry, as mentioned. There is a close relationship to marital status and

TABLE XXII

DISTRIBUTION OF MONTHS WORKED FOR MARRIED LAGUNAS

Months Worked	Percent Female	Percent Male
0	57.1	21.9
1 - 3	3.6	0.0
4 - 6	4.8	3.1
7 - 9	0.0	14.1
10 - 12	34.5	60.9
TOTAL	100.0	100.0

N = 84 females; 64 males.

TABLE XXIII

DISTRIBUTION OF MONTHS WORKED FOR NEVER-MARRIED LAGUNAS

Months Worked	Percent Female	Percent Male
0	45.5	30.0
1 - 3	9.1	17.5
4 - 6	15.2	15.0
7 - 9	3.0	10.0
10 - 12	27.3	27.5
TOTAL	100.1*	100.0

N = 33 females; 40 males.

* Does not sum to 100 percent due to rounding.

number of months worked. Table XXIV shows that more than 72 percent of all those that worked full time were married. This is the case of both males and females. The data suggest that the responsibilities of marriage affect members of the Laguna community much the same as they affect members of the general population.

TABLE XXIV

MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	72.5	72.2
Widowed	2.5	3.7
Divorced	0.0	0.0
Separated	2.5	3.7
Never-married	22.5	20.4
TOTAL	100.0	100.0

N = 40 females; 54 males.

Hours Worked

Respondents were also asked how many hours per week they usually worked. As illustrated in Table XXV, approximately 15 percent responded that they usually work less than 35 hours per week. Economic factors influence the incidence of part-time work. Of those

TABLE XXV

HOURS PER WEEK USUALLY WORKED BY EMPLOYED LAGUNAS

Hours	Percent of Total
1 - 14	10.9
15 - 29	3.6
30 - 34	1.5
35 - 39	0.7
40	73.2
41 - 48	4.4
49 - 59	2.2
60 or more	3.6
TOTAL	100.1*

N = 138

* Does not sum to 100 percent due to rounding.

working less than 35 hours, 20 percent do so because of personal affairs; 60 percent do so because their full-time work is less than 35 hours per week. Only 5 percent attributed their work of less than 35 hours per week to slack work conditions. Yet a majority of those workers so involved are affected by the level of aggregate demand for the goods and services produced by their places of work.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

Industry and occupational experiences of the Lagunas over the past five years indicate their successes in competing for jobs in the general labor market. Several questions were asked of respondents regarding the type of job or jobs held, both at present and during the previous five-year period. Such questions were asked as: what is the present job performed, who is your employer, what is his business, and describe your job. On the basis of responses, the industries and occupations were classified in accordance to two-digit Standard Industrial Classification and the *Dictionary of Occupational Titles.*[1]

INDUSTRY EXPERIENCES

The distribution of Lagunas in industries is limited as is the case with most Indians. Table XXVI reveals the industry experiences of the working-age population over the five-year period 1963-68. The industries identified in the table include employment both on and off the reservation. In order of importance, Lagunas are concentrated in four broad industry categories: government, manufacturing, mining, and services.

Government is by far the most important provider of Laguna employment opportunities. Government employment accounts for nearly 39 percent of industry experiences. The wide range of services provided Indians by the federal government require a relatively large number of workers. Tribal members for whom the services are provided are given preference to perform the necessary tasks that are outside the professional categories. In this way the federal government provides a type of sheltered employment for each tribe. Each tribe is responsible for certain types of maintenance, and for government services such as council representatives and other forms of leadership. In addition, law enforcement services are often provided by the tribes. The amount of tribal work depends upon efforts to establish and

TABLE XXVI
LAGUNA EMPLOYMENT BY INDUSTRY CLASS
(Number and percent)

Code	Industry	Number		Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	9		
08	Forestry	1		
	Subtotal		10	5.9
	MINING			
10	Metal mining	19		
13	Crude petroleum and natural gas	3		
	Subtotal		22	12.9
	CONTRACT CONSTRUCTION			
15	Building construction—general contractors	1		
16	Construction other than building—general contractor	4		
17	Construction—special trade contractors	2		
	Subtotal		7	4.1
	MANUFACTURING			
32	Stone, clay, glass and concrete products	1		
33	Primary metal industries	1		
36	Electrical machinery, equipment, and supplies	31		
	Subtotal		33	19.4
	TRANSPORTATION, COMMUNICATION, ELECTRIC, GAS, AND SANITARY SERVICES			
40	Railroad transportation	3		
41	Local suburban transit and interurban passenger transit	1		
	Subtotal		4	2.4
	WHOLESALE AND RETAIL TRADE			
53	Retail trade—general merchandise	1		
54	Food stores	3		
57	Furniture, home furnishings, and equipment stores	1		
	Subtotal		5	2.9
	FINANCE, INSURANCE, AND REAL ESTATE			
62	Credit agencies, other than banks	1		
64	Insurance agents, brokers, and service	1		
	Subtotal		2	1.2

TABLE XXVI (continued)

Code	Industry		Number		Percent of Total
	SERVICES				
72	Personal services		3		
82	Educational services		4		
86	Nonprofit membership organizations		1		
88	Private households		12		
89	Miscellaneous services		1		
		Subtotal		21	12.4
	GOVERNMENT				
91	Federal government		51		
92	State government		2		
93	Local government		13		
		Subtotal		66	38.8
TOTAL				170	100.0

N = 170

operate businesses. The Laguna do little in this respect and it is reflected in local employment. Very little work has been made available to Lagunas by the State of New Mexico; however, some has been made available, which is more than is done in some other states. Both state and local governments provide only about 22 percent of all Indian experiences in government employment. The federal government is responsible for the remainder.

Manufacturing is responsible for 19 percent of Laguna employment over the past five years. Nearly all of their work is due to one electronics firm located on the reservation. Very little progress appears to have been made in influencing other manufacturing firms to locate on the reservation.

Metal mining and extraction of crude petroleum and natural gas has been important to 13 percent of the working-age population. Again, most experience in mining has been due to the operations of a single firm, Anaconda's uranium mine. The demand for uranium has not kept pace with the ability to produce; therefore, a significant cyclical element has been introduced into Indian mining employment.

The services industry is as important as mining to Lagunas in terms of number employed. Twelve percent of the population have worked in the services industry. Obviously, income generated from supplying services lags significantly behind mining. Lagunas provide services ranging from work in private households as domestics to educational services. Over one-half of all services provided by Lagunas are for private households.

Several other industries provide some employment, but entry is limited. Agriculture accounts for 6 percent of work experience. Contract construction employs 4 percent of the population. Wholesale and retail trade accounts for 3 percent. Transportation, primarily the Sante Fe Railroad, has, at least over the five-year period, employed 2 percent of Lagunas.

Most experiences with the several industries mentioned may well be limited to marginal types of work. Government employment is probably the most stable of all industry classes. Marginal work in the other industries carries with it the greater likelihood of job loss when the economy experiences a relative decline in aggregate demand for goods and services. Dependence is usually upon a single firm within a particular industry. More information in this regard is available by a review of occupational experiences within the industries just mentioned.

OCCUPATIONAL EXPERIENCES

Occupations within which Lagunas have worked during the five-year period prior to the study were revealed by 170 respondents. Table XXVII shows the occupations worked at recently enough to make it possible to assume that any skill required to perform similar work could be relearned with minimum cost to employers.

Within the industries where Lagunas have worked, structural occupations have been most important. Twenty-two percent of the population have worked at such occupations as welding, electrical assembly, excavating, grading, and paving of roads, or in construction. Primary concentration has been on road building or repairing and in carpentry or other construction-related work.

Indians provide service types of work in several industries; nearly 21 percent of the population have performed in this occupational class. Nearly one-half of the work is in domestic services including housekeeping and gardening. Many serve as cooks and waiters or waitresses in restaurants. Still others work as guards or policemen, both on and off the reservation.

TABLE XXVII
LAGUNA EMPLOYMENT BY OCCUPATIONAL TITLE
(Number and percent)

Code	Description		Number	Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
00, 01	Occupations in architecture and engineering	5		
07	Occupations in medicine and health	3		
09	Occupations in education	3		
16	Occupations in administrative specializations	1		
18	Managers and officials, not elsewhere classified	1		
19	Miscellaneous professional, technical, and managerial occupations	5		
	Subtotal		18	10.6
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	6		
21	Computing and account–recording occupations	4		
22	Material and production recording occupations	1		
29	Merchandising occupations, except salesmen	2		
	Subtotal		13	7.7
	SERVICE OCCUPATIONS			
30	Domestic service occupations	16		
31	Food and beverage preparation and service occupations	2		
32	Lodging and related service occupations	4		
35	Miscellaneous personal service occupations	6		
36	Apparel and furnishings service occupations	1		
37	Protective service occupations	4		
38	Building and related service occupations	2		
	Subtotal		35	20.6
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
40	Plant farming occupations	4		
41	Animal farming occupations	11		
42	Miscellaneous farming and related occupations	2		
	Subtotal		17	10.0
	PROCESSING OCCUPATIONS			
55	Processing of chemicals, plastics, synthetics, rubber, paint, and related products.	1		
	Subtotal		1	0.6

TABLE XXVII (continued)

Code	Description	Number		Percent of Total
	MACHINE TRADES OCCUPATIONS			
60	Metal machining occupations	1		
62, 63	Mechanics and machinery repairmen	4		
	Subtotal		5	2.9
	BENCH WORK OCCUPATIONS			
72	Occupations in assembly and repair of electrical equipment	24		
73	Occupations in fabrication and repair of products made from assorted materials	1		
	Subtotal		25	14.7
	STRUCTURAL WORK OCCUPATIONS			
81	Welders, flame cutters, and related occupations	4		
82	Electrical assembling, installing, and repairing	1		
85	Excavating, grading, paving, and related occupations	11		
86	Construction occupations, not elsewhere classified	19		
89	Structural work occupations, not elsewhere classified	3		
	Subtotal		38	22.4
	MISCELLANEOUS OCCUPATIONS			
90	Motor freight occupations	6		
91	Transportation occupations, not elsewhere classified	4		
92	Packaging and materials handling occupations	1		
93	Extraction of minerals	6		
94	Occupations in logging	1		
	Subtotal		18	10.6
TOTAL			170	100.1*

N = 170

* Does not sum to 100 percent due to rounding.

Electrical assembly and repair is the predominant bench type of occupation. Nearly 15 percent of the population have worked in the occupational category. Again, the Lagunas depend upon one firm's fortunes to be able to capitalize upon experience.

Nearly 11 percent of the working-age population has functioned in the professional, technical, and managerial occupations. The majority serve in the capacity of secondary-level workers in the occupations mentioned. For example, in medicine and health, the usual occupation is that of practical nurse, an occupation below that of registered nurse. Some function as school teachers, but most are teachers' assistants. Responsibilities assigned Indians in the entire occupational category tend to be secondary.

Nearly 11 percent of the occupational experiences are in the miscellaneous group. The more significant ones are truck driving, loading of trucks, and mining. Also included, however, are those that work in railroading and logging. Once again, the occupations do not tend to require the type of skill that comes through training. Skills required tend to be learned through experience on the job.

The importance of farming occupations to the tribe is reflected in Table XXVIII; 10 percent of the population list them as their occupations. Primary attention is devoted to cattle and sheep; 64 percent of the Indians in the category work with livestock. Another 24 percent are engaged in agricultural farming. Dependence of the reservation upon agriculture is obviously similar to that of the general economy. Most Lagunas must search elsewhere for occupations in which they may work.

Nearly 8 percent of the population have experience in clerical and sales occupations. Most are engaged in normal office occupations such as record keeping, typing, filing, and general secretarial work. The majority of such work is provided Laguna women in government offices engaged in extending services to Indians. However, a few are able to obtain work in offices and stores outside of sheltered government functions.

Still another 3 percent of the population have experience in machine trade occupations as mechanics or repairmen of various types of machinery. Processing occupations are limited as a source of experience; less than 1 percent revealed such an endeavor.

In brief, Lagunas have occupational experiences that range from the more technical to the marginal labor market entry-level functions. A large number of the occupations are seasonal in nature, and it may well be that the Indians cannot depend upon them from season to season. Services performed for firms engaged in accommodating tourists are likely to be sporadic. Farm occupational demand also depends upon the nature of the harvest and tendency of the area to mechanize operations. Most of the people are highly dependent upon a single firm in order to work at their preferred occupations. As the firm goes, so goes the value of the occupation. A high level of aggregate demand for goods and services is required before a majority of Lagunas can function adequately in the labor market. A decline in the demand for workers in certain occupations may well leave the Laguna without alternatives in the labor market. Agricultural occupations appear to be declining, which means Lagunas must be increasingly more oriented toward general labor market competition.

Location of Present Job. Lagunas reporting that they usually worked were asked if their present job was off or on the reservation. Eighty-eight percent of 139 respondents reported on-reservation work sources. Only 12 percent of the on-reservation population are successful in penetrating the general labor market. The Sante Fe Railroad lines, mines, and electronics firm are all on the reservation. On-reservation work is the most stable Indian employment outside the federal employment provided in Albuquerque, New Mexico. Despite the emphasis on education, Lagunas have not been very successful in obtaining non-sheltered work. This is the indication given, at least, by the on-reservation population at the time of the enumeration. Nothing is known of the off-reservation Indian.

Source of Learning Present Job. Individuals usually working were also asked to report where they had learned to perform their present jobs. Table XXVIII contains the information regarding the job training necessary to function productively.

Fifty-seven percent disclosed that their direct instruction was received from employers. Such a response is expected since most tasks are specifically oriented to particular employer preferences regarding how work is to be done. The same holds for skilled and unskilled jobs alike; however, it is expected that the more skilled tasks require more prolonged periods of instruction than the unskilled tasks.

TABLE XXVIII

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	57.3
Government training program	10.1
Armed services	2.9
Formal schooling	13.8
Other	15.9
TOTAL	100.0

N = 138

Nearly 14 percent of workers are convinced that their formal years of school provided the necessary background to adequately function in present jobs. For some, the training received in typing, shorthand, and filing does indeed carry over almost entirely. For others, there is a close relationship between formal training and on-the-job requirements. This is particularly the case when simple reading of instructions is required.

Government training programs were identified as the source of skills by 10.1 percent of workers. Training received was varied and, seemingly, placement into jobs was where they could use the specific training they had received—for instance, heavy equipment operators later worked on road paving or grading. The armed services were viewed as the source of job training for 2.9 percent of workers. Some may have found civilian jobs that were similar to assignments in the armed forces such as cooks or clerks; however, there is normally little carry-over between military and civilian assignments.

Nearly 16 percent reported the "other" category as the source of job instruction. The category refers to such sources as self-taught and instruction from friends and relatives. Generally most persons in the category are engaged in agricultural occupations where relatives play a major role in teaching the types of functions required to plant crops or care for herds of cattle or sheep.

Union cards are held by 4.5 percent of 244 respondents. The vast majority of union members are miners, but some others belong to the building trades unions. Job training by unions has not been an important aspect of their labor market activities. Practically no effort has been made by unions to organize on Indian land. One factor in slowing down union organization has been the problems inherent in such an endeavor, but more important has been the lack of Indian involvement in the general labor market until the last several years. Another factor is the location of Indians in the Southwest, which is generally characterized by weak union movements; such is the case regardless of the state in question. In addition, Indian isolation from the major labor markets suggests that unionization of Indians occurs primarily because firms locating on Indian land already have long histories of organization. Indians may be included in such unions as a matter of course. In any event, training offered Indians through established apprenticeship programs are scarce indeed.

Skills Training Without Subsequent Job Experience. The unwillingness of many Indians to move away from the reservation is reflected in their undertaking job training only to return to Indian land without using skills that have been acquired. Respondents were asked to reveal any job training they may have received that had not been utilized on the job. Of 240 responses, 20.4 percent revealed such a situation. A variety of skills were uncovered when respondents were asked to name the specific training they had received.

Most respondents listed training that in fact involved no skill, but rather some job held in the past. Several, however, did appear to have undertaken training that could result in work if the individual had access to job information or was willing to move away from the reservation to take available jobs. Prominent among the skills listed are welders, mechanics, carpenters, beauticians, and policemen. The inability to use such skills may reflect (1) the source of training, (2) the quality of training, or (3) the unwillingness to locate where the training may lead to jobs. Even so, latent skills among the Laguna population are not abundant and extensive training of workers to make them employable may be a necessity. This is particularly the case in the semi-skilled and skilled categories.

SOURCES OF INCOME

Insights into Laguna incentives to participate in the general labor force or, alternatively, to remain on the reservation can be gained by a review of the sources and amounts of earned and unearned income. The availability of transfer payments can explain the ability of some persons and families to remain on Indian land even though there are few attempts to find gainful employment. A breakdown of the data by age, sex, and educational attainment level permits a discussion of the influence education has had on the economic well-being of the population.

Also, a determination may be made of the extent of dependency on female and elderly income. In addition, an analysis is made of individual and family income. This latter aspect will reveal the extent of income sharing within the extended family units. Weaknesses in this section are those inherent in asking persons to respond on the basis of recall without the aid of records.

EARNED AND UNEARNED INCOME

Several questions were asked of Laguna respondents in order to obtain information regarding total individual and family income. They were asked to reveal all sources and amounts of both individual and family income. Table XXIX illustrates the answers provided by respondents. Family income is presented in two separate categories. One is unadjusted for family size, whereas the other is adjusted to eliminate multiple family member response; only one member of a family was retained in the calculation.

TABLE XXIX

INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0	16.3		
1 - 499	23.9	17.1	14.5
500 - 999	13.0	13.4	13.0
1,000 - 1,999	13.8	7.8	8.0
2,000 - 2,999	10.5	13.8	15.2
3,000 - 4,999	10.9	16.1	17.4
5,000 - 9,999	11.7	26.7	27.5
10,000 - and over	0.0	5.1	4.4
TOTAL	100.1*	100.0	100.0

N = 239 individual; 217 unadjusted family; 138 adjusted family.

* Does not sum to 100 percent due to rounding.

Family Income. Approximately 16 percent of individuals received no income in calendar 1967. It is unlikely that any individuals earn $10,000 per year or more. Nearly 24 percent of individuals receive income in the $1-499 category; this includes both earned and unearned income.

Median income for individuals is in the $500-999 bracket. Thus, it is apparent from Table XXIX that over one-half of the working-age population receive less than $1,000 annually. Of individuals, 77.4 percent receive annual incomes totaling less than $3,000.

Additional family workers are required to garner the subsistence level of income on the reservation. It is apparent that a single worker per family is insufficient to maintain the family units even at the level illustrated in the table. Median family income falls in the $2,000-2,999 bracket on both an adjusted and unadjusted basis. This compares to the $500-999 median for individuals. There is very little difference between the adjusted and unadjusted data. Because of the similarity, the remainder of the section will concentrate on the unadjusted data.

Fifty-two percent of families receive less than $3,000 annually. The median number of children reported by married respondents is four, but it is likely that all children are not dependent. Even so, Laguna family size is large, and with a majority of families receiving under $3,000 annually, it is possible to classify them as living in conditions of poverty. The definition of poverty is debatable regarding income levels. One such definition is that incomes under $3,130 in the case of multiple person families and those under $1,540 in the case of unattached individuals, spell poverty.[8] Under such a standard, it is possible to assert that poverty is widespread among Laguna individuals and families. Income sharing seems necessary for basic subsistence. The extended family as the basic economic unit is required for survival. The continuation of such a family structure seems to be out of necessity, if not choice.

Multiple workers within a given family are necessary to rise into the $10,000 and over bracket and about 5 percent of families are in this category. Nearly 27 percent of families, through income pooling, are in the $5,000-9,999 category. Only 16 percent are successful in generating incomes in the $3,000-4,999 category. Again, it is obvious that income sharing is widespread among the Lagunas.

TABLE XXX

NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	6.6
Homemade clothing	4.6
Goods exchanged for other goods	2.5
Other barter sources	3.7

N = 241

Non-Money Income. It is believed that some Indians live in a semi-barter society. Respondents were asked: "Did you receive any non-money income last year?" Non-money can be an important supplement to low incomes. Certain activities such as vegetable gardening can often be expected, particularly if individuals are free from meeting rigid work schedules. The extent of and sources of non-money income are reported in Table XXX.

Some non-money income is earned on the reservation. Nearly 7 percent of the working-age population raise vegetables for personal consumption. Roughly 5 percent of the women make at least some of the family clothing. Some barter is admitted since 2.5 percent of Lagunas are so engaged and classify such activity as a source of income to them. Sources other than those mentioned were revealed by another 4 percent.

Many of the same individuals are likely to be engaged in two or more of the activities mentioned in Table XXX. These persons were asked to place a money value on their activities. Those who were able to generate additional income did not do very well. Table XXXI reveals their own estimate of the monetary equivalent of the activity.

TABLE XXXI

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	85.1
1 - 499	14.1
500 - 999	0.8
1,000 or over	0.0
TOTAL	100.0

N = 241

The table reveals that 85 percent of the population does not have non-money income. Nearly all those who do, 14 percent, considered their activities were worth less than $500 per year. Less than 1 percent were active enough to to earn the equivalent of between $500 and $999. Obviously, a variety of activities are undertaken by Lagunas to support the members of the relatively large extended family. Gardening, sewing, trading, and other activities are undertaken to upgrade the general welfare of the people. In some cases the non-money income can total as much in value as actual money received during the year.

SOURCES OF INDIVIDUAL INCOME

Additional information was sought to determine individual sources of income, both earned and unearned. The question was asked:

"What were the sources of income received by you in the last twelve months?" There were seventeen separate categories of possible response on a yes or no basis. Table XXXII contains the replies of 252 Lagunas and, as is often the case, some individuals reported multiple income sources.

TABLE XXXII

SOURCES OF INDIVIDUAL INCOME

Source	Percent*
Gifts from children, relatives, or churches	13.1
Sale of handicrafts	5.2
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	8.7
Earnings from a farm, ranch, or other business	8.3
Earnings from a trade	40.5
Pensions	6.0
Assistance payments from Bureau of Indian Affairs	3.6
Assistance payments from other public or private sources	7.9
Interest or dividends on personal loans and investments	7.1
Income from royalties, leases, timber sales, annuities	10.7
Judgment or settlement funds	1.2
Sale of property	2.0
Veterans payments	5.6
Social Security	9.5
Unemployment insurance	1.2
None	14.7
Other	4.0

N = 252

* Does not sum to 100 percent because of multiple income sources.

Earnings from a trade were reported by approximately 41 percent of respondents. The category includes not only skilled and semi-skilled work, but unskilled as well. Both salaried and hourly paid employees are included in the total. It is the single most important income source for the Laguna population.

Self-employed income is received by nearly 9 percent of the working-age population. The category is constituted primarily of those engaged in agricultural activities. It will be recalled that the overwhelming majority of these are engaged in work connected with the raising of cattle and sheep. Still another 8 percent of the population in question obtain earnings from farms and ranches. Such earnings are obtained by work as hired hands. Most of it is generated on the reservation, but a few hire out to nonreservation operations.

The sale of handicrafts is an important Laguna activity. It provides a source of income to 5 percent of the population. Such activities are confined primarily to women. It is obvious that the ancient art of pottery making is very much alive among Laguna Indians. The sale of property was reported by only 2 percent of the population. Such sales are normally expected to be slight among Indians since they are forbidden by law to dispose of Indian land held in trust by the U. S. Government.

Unearned income, in the form of transfer payments of various types, is very important to the existence of the population. The most important source of unearned income is in the area of gifts from children, relatives, or churches. Thirteen percent of the population is dependent upon such sources. The category reflects not only the humanitarian activities of churches, but also the dependence of the population upon relatives. Veterans payments are received by another 6 percent of the population. Service allotments are paid to families and, also, some reported retirement benefits from twenty years of career service to the U. S. Armed Forces.

Past activity of the population in the labor force is reflected in the Social Security category. Nearly 10 percent of the population receive monthly payments from this source. Most recipients are retired, but some payments are also provided widows and dependent children because of premature deaths of the principle provider. Private pensions are received by about 6 percent of the population. This category reflects the importance of the Santa Fe Railroad to the reservation in past years. This source of retirement will be less and less important over the coming years because of the relative decline of the railroad as an employer. Welfare payments as well as aid to dependent children and the blind, to mention a few, are reflected in the two assistance categories. Nearly 4 percent receive assistance from the Bureau of Indian Affairs and another 8 percent receive assistance from state and county sources. It seems apparent that the need for welfare assistance is high among the Laguna population. Unemployment insurance provided some funds to 1 percent of the working-age population during the year prior to the study.

Sources other than those mentioned provided some income to 4 percent of the population. No specific mention was made of what source was involved.

Nearly 15 percent of the respondents in the 16 and over population was without a single source of income during the past year. Some of these respondents are in the teen-age category, but a few are in other age groups. The Laguna population is oriented toward work, and there is considerable tribal encouragement for individuals to participate in the labor force. A great deal of encouragement is offered by the tribe to seek and obtain transfer income when it is available. The tribe informs the people of the availability of assistance and is highly active in seeking job opportunities for its members.

Those With No Income

Of the thirty-nine Lagunas with no income, thirty-two are women. Twenty-three of the women listed keeping house as their primary activity during the year prior to the survey; seven others listed going to school. Seven men reported no income during the year prior to the survey. Of these, four were students, one was unable to work, and two were looking for work.

TABLE XXXIII

AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	15.6	9.3
20-29	18.8	22.1
30-39	25.0	19.3
40-49	31.3	19.3
50-59	6.3	11.4
60-69	3.1	10.0
70 and over	0.0	8.6
TOTAL	100.1*	100.0

N = 32

* Does not sum to 100 percent due to rounding.

Men with no income tend to be in the younger age groups. Of the seven reporting no income, six are in the two younger age groups.

The women with no income are dispersed over all age groups as evidenced in Table XXXIII. The age distribution of women with no income suggests that marital status and family responsibilities explain the high proportion of women with no income. They prefer to remain housewives as opposed to active participation in the labor market taking them away from their families.

EARNINGS FROM A TRADE

The most frequently mentioned source of income was earnings from a trade. Of those people interviewed, 40.5 percent responded that they had income from a trade during the year prior to the survey. This income source includes earnings from both skilled and unskilled occupations.

Sixty-two men and thirty-nine women reported earnings from a trade in accordance to the data breakdown in Table XXXIV. The highest proportion of women having earnings from a trade are in the 20-29 group. For men, the highest proportion of those with earnings from a trade are in the 30-39 age group. Generally speaking, earnings from a trade is a source of income most accessible to the younger people on the Laguna Reservation.

TABLE XXXIV
DISTRIBUTION OF EARNINGS FROM A TRADE
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	7.7	1.6
20-29	33.3	17.7
30-39	18.0	35.5
40-49	30.8	16.1
50-59	7.7	19.4
60-69	2.6	6.5
70 and over	0.0	3.2
TOTAL	100.1*	100.0

N = 39 females; 62 males.
* Does not sum to 100 percent due to rounding.

SELF-EMPLOYMENT AND OWNERSHIP INCOME

The respondents to the questionnaire were asked if they had any income from self-employed activity and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietary interest in a business and derive income from that business but take no part in its operation. Such a person does not receive self-employed income, but may receive income from the business. It is not clear whether respondents were able to make the distinction between these two types of income although interviewers were instructed to attempt to clarify this distinction. As was demonstrated in Table XXXII, previously, twenty-three people, or 8.7 percent of the population, report self-employed income and twenty-one individuals, or 8.3 percent of the population, report income from ownership. In most cases these are not the same individuals. Of those individuals reporting self-employed income, fifteen are men and eight are women. Of those reporting income from ownership, ten are men and eleven are women. It should be noted that handicraft income is not included as a source of self-employed income. Men with income from ownership tend to be in the older age groups with more than half of them 70 years of age or older. Women with income from ownership also tend to be older than women in general, but not as old as males with such a source of income. Men with self-employed income tend to be concentrated in the 30-49 age group. Women with self-employed income are concentrated in the 30-59 age group. It would appear that income from ownership is a source to older members of the Laguna community, and self-employed income is a source to the middle-age groups.

INCOME FROM HANDICRAFT

Handicraft income is reported by 5.2 percent of the population. Of those reporting this source of income, nine were women and four were men. Most of the people reporting income from this source were in the 30-49 age groups.

ASSISTANCE PAYMENTS

Assistance payments are provided by the BIA and other sources. Assistance payments from the BIA are reported by 3.6 percent of the respondents. Assistance payments from other sources are reported by 7.9 percent of the people responding to the questions. Of the nine people receiving BIA assistance, six were women and three were men. Two-thirds of all those reporting this source of income are in the 20-29 age group. Assistance payments from other sources were reported by twenty respondents. This source of assistance includes both state and private organizations. The response to this question may have been unusually high for the year prior to the survey. During the year, the area was struck by severe snowstorms. These storms were reported throughout the country; the result was that much food and clothing were sent to the area. It is not clear if this is reported as a welfare source. Two-thirds of the men receiving assistance are 70 years of age and older. This source of income also tends to go to older women as is evident in Table XXXV.

TABLE XXXV
DISTRIBUTION OF INCOME FROM PUBLIC
AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	18.2	22.2
30-39	0.0	0.0
40-49	18.2	0.0
50-59	9.1	11.1
60-69	18.2	0.0
70 and over	36.4	66.7
TOTAL	100.1*	100.0

N = 11 females; 9 males.
* Does not sum to 100 percent due to rounding.

INCOME FROM SOCIAL SECURITY

Social Security is an important source of income to the people of the Laguna community. Of the twenty-four individuals reporting income from this source, eleven are women and thirteen are men. As shown in Table XXXVI, the payments were made primarily to older men and women. The importance of this source of income to older workers is shown in Table XXXVII. More than 40 percent of the

TABLE XXXVI

DISTRIBUTION OF INCOME FROM SOCIAL SECURITY

(By sex and age)

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	0.0	15.4
30-39	18.2	0.0
40-49	0.0	15.4
50-59	9.1	0.0
60-69	27.3	15.4
70 and over	45.5	53.9
TOTAL	100.1*	100.1*

N = 11 females; 13 males.

* Does not sum to 100 percent due to rounding.

women 70 years of age and older receive income from this source. Only one-third of the men 70 years of age or older receive income from Social Security.

TABLE XXXVII

PERCENTAGE OF LAGUNAS RECEIVING SOCIAL SECURITY BENEFITS

Age Group	Percent Females in Each Age Group	Percent Males in Each Age Group
All age groups	7.9	10.8
60-69	21.4	22.2
70 and over	41.7	33.3

N = 11 females; 13 males.

MOST FREQUENTLY MENTIONED SOURCES

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions the income source. The most frequently mentioned income sources for female age groups is presented in Table XXXVIII. The table demonstrates a clear and not unexpected pattern. Young Laguna females rely most heavily on income from a trade. It is not until women reach their 50's that other sources of income become more frequently mentioned than earnings from a trade. Pensions, Social Security payments, and welfare are important to the older age groups.

TABLE XXXVIII

MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES

(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Earnings from a trade	23.1
20-29	Earnings from a trade	41.9
30-39	Earnings from a trade	25.9
40-49	Earnings from a trade	44.4
50-59	Gifts	25.0
	Earnings from a trade	18.8
	Pensions	18.8
60-69	Pensions	28.6
	Interest on investments	28.6
70 and over	Social Security	41.7
	Other welfare	33.3

* Does not sum to 100 percent due to multiple responses.

The pattern for men is similar. Table XXXIX reveals that earnings from a trade are important for all age groups until the 70 and over age is reached. It is not until workers become old that they rely

XXXIX

MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES

(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Gifts	22.2
	Interest on investments	22.2
20-29	Earnings from a trade	44.0
30-39	Earnings from a trade	81.5
40-49	Earnings from a trade	58.8
50-59	Earnings from a trade	100.0
60-69	Earnings from a trade	44.4
	Pensions	33.3
70 and over	Social Security	33.3
	Pensions	28.6
	Other welfare	28.6

* Does not sum to 100 percent due to multiple responses.

on pensions, Social Security, and welfare. Several other factors are evident from the data. A very important aspect of the study deals with income received by education and sex.

INCOME BY EDUCATION AND SEX

A breakdown of income received on the basis of education and sex has several advantageous features. Such data provide initial insights into Laguna motivation to obtain education for job purposes. They also permit speculation regarding female and male importance in providing for individual and family needs. The receipt of income by sex and educational attainment is reported in Table XL. Reporting is on the basis of 120 male and 140 female responses.

Opportunities for earning income seem greatest for on-reservation men who have completed high school. Nearly 28 percent of men 16 and over report that they possess high school diplomas. Median income for such men falls within the $3,000-4,999 bracket. On the other hand, one-third of all females of working-force age report high school as their highest educational attainment. Their median income falls in the $500-999 bracket. The median income category for all females irrespective of educational attainment is $1-499. For men, it is in the $1,000-1,999 bracket. Thus, female high school graduates do better than other women in total. However, it seems apparent that the usual Laguna female approach to the labor market is for the purpose of supplementing family income. It does not appear that they are attached on a career basis even though the need for their income may well be on an extended basis.

Males with eleventh grade education have a median income in the $1-499 bracket. Men do not fare so badly in any other single educational attainment category. It is possible that males with college experience and, for that matter, many with high school diplomas have relocated off the reservation for the purpose of obtaining employment. Males that have completed at least two years of college do not fare well on Indian land. Nearly 1 percent report no income in the past year. Still another 1 percent generated less than $500. Laguna college men obviously are unable to utilize their talents on the reservation. Therefore, most must leave. Such a situation has consequences for young Laguna men. The realization that in order to capitalize on a college education requires leaving the reservation may dictate against serious plans to enroll in higher educational institu-

TABLE XL
INCOME BY EDUCATION AND SEX
(Percent)

		Income									
Education	Sex	$ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	0.0	1.7	0.8	1.7	0.0	0.0	0.0	0.0	0.8	5.0
	F	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7
1	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
2	M	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8
	F	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7
3	M	0.0	0.0	1.7	0.0	1.7	0.0	0.0	0.0	0.8	4.2
	F	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4
4	M	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	1.6
	F	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	1.4
5	M	0.0	0.0	0.8	1.7	0.0	0.0	0.0	0.0	0.8	3.3
	F	0.0	0.7	1.4	0.0	0.0	0.0	0.0	0.0	0.0	2.1
6	M	0.0	0.0	0.8	3.3	0.8	0.8	0.0	0.0	0.0	5.7
	F	0.7	1.4	0.7	1.4	0.0	0.0	0.0	0.0	0.0	4.2
7	M	0.0	0.0	0.0	0.0	0.8	0.0	0.8	0.0	0.8	2.4
	F	1.4	0.7	0.0	0.7	0.7	0.0	0.0	0.0	0.0	3.5
8	M	0.8	1.7	0.8	0.0	2.5	0.8	0.0	0.0	0.8	7.4
	F	2.1	2.9	1.4	2.1	0.0	0.0	0.0	0.0	0.7	9.2
9	M	0.0	1.7	0.8	1.7	0.8	0.8	2.5	0.0	0.0	8.3
	F	5.0	2.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	7.8
10	M	1.7	1.7	3.3	0.8	0.8	5.8	0.8	0.0	0.0	14.9
	F	4.3	6.4	0.7	1.4	1.4	0.7	0.0	0.0	0.0	14.9
11	M	1.7	5.8	1.7	2.5	0.0	1.7	0.8	0.0	0.0	14.2
	F	2.9	0.7	0.0	0.7	1.4	0.7	0.0	0.0	3.6	10.0
12	M	0.0	1.7	1.7	4.2	4.2	4.2	11.7	0.0	0.0	27.7
	F	5.0	10.0	3.6	1.4	4.3	3.6	2.1	0.0	3.6	33.6
13	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.7	0.7	0.0	0.0	0.0	0.7	0.0	0.0	0.7	2.8
14	M	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
	F	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4
15	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7	1.4
16	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17+	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7
Info. not available	M	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.4
	F	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.8
TOTAL	M	5.8	15.9	13.2	16.7	11.6	14.1	17.4	0.0	4.8	99.5*
	F	22.8	27.0	10.6	8.4	7.8	6.4	4.9	0.0	11.4	99.3*

N = 120 males; 140 females.

* Does not sum to 100 percent due to rounding.

tions. This factor may mean that Laguna men are more inclined to enroll in skills training programs requiring a lesser training period. Vocational training in some categories may result in greater success in both obtaining a job in the area of training and the retention of reservation residence.

Women with some college training including possession of degrees fare better than on-reservation men. They were able in several cases to find employment providing income in the $5,000-9,999 bracket. The $3,000-4,999 bracket was also mentioned. Females with college training are more likely to find reservation employment because of the nature of employment. They are more likely than men to obtain jobs in the public schools and in the offices of various employers.

On-reservation men also fare relatively well with eighth grade educational attainments. Median income for the category is in the $2,000-2,999 bracket. For women who ended their formal training with the eighth grade, the median is in the $1-499 bracket. Men completing the ninth and those completing the tenth grades have median incomes in the $1,000-1,999 bracket. Females do not fare nearly so well, particularly at the ninth grade level.

In short, men of the Laguna Reservation are the prime earners of income. Women, however, are relied upon as additional workers to supplement the primary male responsibility. It seems that there is a strong motivation for males to end their educational careers at the close of high school. Achievements beyond this level go unrewarded, at least so long as reservation residence is maintained. Women, however, do best when they go on to college. Monetary rewards are not certain even for them as may be seen in Table XLI. The data seem to indicate that men may be highly responsive to government- and business-sponsored skills training programs. This is particularly the case if it seems possible to obtain employment and remain on tribal property at the same time.

CONSUMPTION PATTERNS

Indian consumption patterns provide initial insights into possible avenues for training Indians to operate on-reservation businesses. It is necessary to analyze how income is spent by family income category, on what it is spent, and where it is spent. The nature of expenditures also provides information regarding family accessibility to transportation. The demand for automobile repairs indicates the ability to commute from the reservation to adjacent areas to work or seek work. It also indicates the ability to commute from one part of the reservation to another for the same reasons. The lack of access to transporation may have some bearing on quit rates and absenteeism, which is of interest to employers considering locating on Indian land.

Information such as was mentioned was obtained by asking respondents separate questions regarding where their families usually purchased groceries, automobile repairs, and clothing. One reason for asking such questions was to learn if Lagunas usually purchased each category of goods on or off the reservation, part on and part off, or made no purchases of the particular goods at all. The method of payment, cash or credit, was also a factor, particularly with respect to family income level. Each will be analyzed in turn.

TABLE XLI

WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES

(Percent)

	Item		
Place	Groceries	Automobile Repairs	Clothing
On-reservation	24.6	4.7	6.2
Off-reservation	20.7	50.6	60.3
Half and half	53.1	13.7	33.1
Do not know	1.6	3.1	0.4
None	0.0	27.8	0.0
TOTAL	100.0	99.9*	100.0

N = groceries 256; automobile repairs 255; clothing 257.

* Does not sum to 100 percent due to rounding.

PURCHASE OF GOODS AND SERVICES

Table XLI reveals the places where Lagunas usually purchase goods and services. Location of Laguna villages near off-reservation sites make it possible for a majority of families to split their grocery purchases between on and off Indian land stores. Fifty-three percent of families usually spend their grocery dollars in this fashion. Still another factor contributing to the split in such expenditures is the incidence of relatively high family incomes. Nearly 21 percent of family units usually purchase all their grocery needs from off-reseration stores. The ability to behave in such a fashion is evidence of either credit availability from both sources or the lack of credit need. About one-fourth of families usually frequent on-reservation trading posts to provide their grocery needs. Less than 2 percent did not know the source of their family food supply.

The purchase of automobile repairs is predominantly from off-reservation sources. Nearly 51 percent indicated such a pattern. On-reservation repairmen, usually at service stations on Indian land near the highways, provide services to nearly 5 percent of families. Only 3.1 percent did not know where such repairs were obtained. Roughly 28 percent of families do not demand the services of automobile mechanics. In general, such data indicate the extent of families without an independent source of transportation. However, it is recognized that some families are able to provide repair services for themselves on a do-it-yourself basis. Others may hire qualified Indians outside the family to perform such tasks as indicated in the 4.7 percent of families satisfying demands from reservation people. Despite the limitations noted, it is probable that about a fourth of all family units are restricted in their ability to commute to areas on or off tribal property. Consequently, the ability to participate in the labor force is restricted. In such cases, greater than normal reliance may be made upon friends and relatives to communicate job information. Thus, horizons are limited because job information depends primarily upon the imperfect and largely limited knowledge of other Indians on the reservation.

TABLE XLII

METHOD OF PAYING FOR FAMILY PURCHASES

(Percent)

	Item		
Method of Payment	Groceries	Automobile Repairs	Clothing
Cash	64.7	56.8	77.4
Credit	32.2	33.0	21.4
Oil company credit card	0.0	1.6	0.0
Do not know	3.1	8.7	1.2
TOTAL	100.0	100.1*	100.0

N = groceries 255; automobile repairs 185; clothing 257.

* Does not sum to 100 percent due to rounding.

Clothing expenditures are usually made at off-reservation stores by 60 percent of families. Only 6 percent usually make such purchases from trading posts on Indian land. Still another 33 percent split their purchases between the two alternatives. Such a record indicates both the lack of clothing inventories carried by trading posts and the limited range of selection. The periodic nature of clothing buys also reveals the possibility of less reliance upon credit terms. Thus, off-reservation specialty stores may be preferred to the on-reservation general merchandising stores. For that matter, the entire range of goods and services bought may be closely associated with availability of credit terms to Lagunas at trading posts and off-reservation stores.

METHOD OF PAYMENT

Dependence upon credit terms in the purchase of goods and services restricts freedom of choice regarding where consumer expenditures will be made. The lower the incomes, the more susceptible families become to reliance upon credit terms. Indians, in varying degrees, are often considered more dependent upon credit than the general population because of their lower incomes. It is known that once credit is extended to low-income families for groceries, the possibility of trading elsewhere is highly restricted unless credit obligations previously incurred are not honored. The lack of funds remaining after paying bills indicates the inability to seek alternatives to present practices. Table XLII provides insights into this difficult problem.

A majority of families usually provide most of their needs for goods and services on a cash basis. Nearly 65 percent do so on grocery purchases, 57 percent on automobile repairs, and 77 percent on clothing. Approximately the same percentage of families require credit for both grocery items and automobile repair services. Slightly more than one-fifth (21.4 percent) of families usually require credit for clothing purchases. The infrequent nature of clothing buys is a partial explanation for the situation. Difficulty in arranging credit terms from off-reservation merchants may well be an important factor also.

Very few families have, desire, or qualify for oil company credit cards. Only 1.6 percent of families indicated access to this service. It is possible that on-reservation purchases are largely made by families in the lowest-income groups because of the greater need for credit and at the same time a greater inability to obtain it. For this reason, we now turn to an analysis of cash and credit payments by family income group.

METHOD OF PAYMENT BY FAMILY INCOME LEVEL

Table XLIII provides information regarding the nature of cash and credit purchases by family income level. The use of credit is important to nearly all Laguna families throughout the entire range of income levels. Its importance to particular families depends largely upon their income level and family size. Each category of expenditure is reviewed separately since the use of credit varies by type of goods or service.

Groceries. Grocery items include quite an array of goods, which constitute more than food. The degree to which non-food items are included in market baskets depends upon income. The same seems to be the case with credit and cash use.

TABLE XLIII

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	65.7	34.3	75.0	25.0	86.1	13.9
500 - 999	59.3	40.7	69.2	30.8	72.4	27.6
1,000 - 1,999	58.8	41.2	75.0	25.0	81.2	18.8
2,000 - 2,999	48.2	51.8	50.0	50.0	72.4	27.6
3,000 - 4,999	62.9	37.1	44.4	55.6	80.0	20.0
5,000 - 9,999	79.0	21.0	62.5	37.5	77.2	22.8
10,000 and over	100.0	0.0	77.8	22.2	100.0	0.0
Info. not avail.	63.9	36.1	68.2	31.8	75.7	24.3

N = groceries 247; automobile repairs 170; clothing 253.

Note: Summation is horizontally by good or service in each income category.

Nearly 66 percent of families with income totaling less than $500 annually usually purchase groceries on a cash basis. The remaining 34 percent usually use credit. Undoubtedly, such families are required to make use of cash because of their inability to obtain credit terms. Families in the $500-2,999 categories seem to be in a better financial position to obtain credit from merchants than those with receipts of less than $500. The use of credit in grocery purchases increases as the income level rises through the $2,000-2,999 bracket. The income category just mentioned contains 52 percent of families that usually utilize credit for food-related items.

Families in income categories above $3,000 annually utilize credit less as income rises. For example all the families in the $10,000 and over bracket usually buy groceries on a cash basis. In the $5,000-9,999 category, 21 percent usually use credit, but its use increases among families (37 percent) in the $3,000-4,999 bracket. Families with greater access to credit use it less than families with lesser ability to repay. On the low end of the income scale, families seem to take advantage of credit terms to the extent it is made available. It is out of necessity that credit terms are sought. At the higher-income levels, credit is used principally because it is convenient.

Automobile Repairs. Automobile repair services obtained on a cash basis seem to reflect both the ability to repay and extent of ownership. Families earning less than $500 annually are not likely to own vehicles, but when they do, repairs are made principally on a cash basis. This reflects the inability to obtain credit terms, particularly from most service stations and garages. Essentially the same appears to be the case with families in all income categories below $3,000 per year.

Income groups above $3,000 per year seem to have greater success in arranging credit terms. However, those families with incomes in excess of $5,000 seem to require less credit than lower-income groups. This may be due to (1) the ownership of later model vehicles requiring fewer repairs, or (2) the greater ability to offer cash when repairs are needed.

In general, automobile repairs are usually obtained on a cash basis. The cash requirement may have the effect of substantially reducing the availability of transportation among Laguna families. Lower-income groups are apt to purchase older vehicles in the first place. Once repairs are required, there is a strong possibility that automobiles remain idle for extended periods because substantial proportions of the total cost are required before services will be provided. During the period of vehicle disrepair, the ability to either commute to jobs or to seek them in the first place is reduced.

Clothing. The purchase of clothing on a cash basis is more pronounced among Lagunas than any other consumer item considered

TABLE XLIV

METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL GROCERIES, AUTO REPAIRS, AND CLOTHING

(Percent)

	Method of Payment											
	Cash						Credit					
	Percent of Total Purchasing Item			Percent of Total Paying Cash			Percent of Total Purchasing Item			Percent of Total Using Credit		
Family Income	(1)Gro.	(2)Auto	(3)Cloth.	(4)Gro.	(5)Auto	(6)Cloth.	(1)Gro.	(2)Auto	(3)Cloth.	(7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	10.1	8.2	13.0	15.1	13.3	16.6	4.9	2.9	2.4	14.6	7.7	11.1
500 - 999	6.5	5.3	8.3	9.7	8.6	10.6	4.4	2.3	3.2	13.4	6.1	14.8
1,000 - 1,999	4.1	3.5	5.1	6.1	5.7	6.5	2.8	1.2	1.2	8.5	3.1	5.6
2,000 - 2,999	5.3	7.1	8.3	7.9	11.4	10.6	5.7	7.1	3.2	17.1	18.5	14.8
3,000 - 4,999	8.9	7.1	11.1	13.3	11.4	14.1	5.3	8.8	2.8	15.9	23.1	13.0
5,000 - 9,999	18.2	17.7	17.4	27.3	28.6	22.1	4.9	10.6	5.1	14.6	27.7	24.1
10,000 or more	4.5	4.1	4.4	6.7	6.7	5.5	0.0	1.2	0.0	0.0	3.1	0.0
Info not avail.	9.3	8.8	11.1	13.9	14.3	14.1	5.3	4.1	3.5	15.9	10.8	16.7
TOTAL	66.9	61.8	78.7	100.0	100.0	100.1*	33.3	38.2	21.4	100.0	100.1*	100.1*

N = (1) Groceries = 247
(4) Cash = 165
(7) Credit = 82

(2) Auto repairs = 170
(5) Cash = 105
(8) Credit = 65

(3) Clothing = 253
(6) Cash = 199
(9) Credit = 54

* Does not sum to 100 percent due to rounding.

in the study. The $10,000 and over group reported all their needs were supplied by use of cash. Eighty-six percent of families with less than $500 annually provide their clothing needs with cash. Credit is usually used most often by the $500-999 and $2,000-2,999 groups. The greater the income, the greater the consumer choice of retail establishments; lower-income groups are restricted in choice and appear to utilize credit to the fullest possible extent.

EXPENDITURE PATTERNS

Additional information regarding Laguna family consumption is possible by a further refinement of expenditure data. Such a refinement is provided in Table XLIV, which offers a breakdown of expenditures on the basis of cash and credit use relative to (1) the total purchasing the item and (2) the percentage of each method used by income classification.

First, it is obvious that two-thirds of all Laguna families, regardless of income, provide their grocery needs on the basis of cash. The largest proportion of all families making cash outlays (18 percent) are in the $5,000-9,999 income bracket. The same group is most numerous in the other consumer categories in terms of cash outlays relative to the total of all families purchasing the items. The second largest consumer family group that pays cash is the less than $500 per year group.

Roughly 79 percent of all families purchasing clothing do so by usually paying cash. Auto repairs are usually obtained on a cash basis by 62 percent of all family units. Families in the lowest-income category are not only the second most numerous of the seven groups, but they are required more than most others to pay for their needs with cash.

The percent of total purchasers using credit varies by consumer item. Grocery credit is used most frequently by families in the $2,000-4,999 brackets. Grocery credit is used equally by both the $0-499 and $5,000-9,999 groups. On the other hand, the three income groups in the $2,000-9,999 range make the greatest use of credit in automotive repair services. The lesser use of credit by the other groups reflects the lack of accessibility to such terms, except for the group earning $10,000 or more annually.

Credit is used most extensively by the $5,000-9,999 income group in the purchase of clothing. Approximately 24 percent of all clothing credit is provided this group. Fifteen percent of all clothing credit is extended to the $2,000-2,999 units as is also the case with the $500-999 bracket.

In summary, it seems possible that the reliance of Laguna families upon cash to satisfy most of their effective consumer demands is related to the lack of on-reservation retail outlets. Off-reservation retail stores may be less inclined to extend credit because of their inability to depend upon repayment. Stores that do cater primarily to reservation families are the ones that assume most of the credit risks; for this reason, they are likely to charge higher prices than those that provide little or no credit. Families in the lowest-income groups are penalized most heavily because of their inability to patronize other stores due to their dependence on credit terms.

Consumer education is undoubtedly called for among all the families regardless of income level. However, benefits would not be realized by the lower-income groups because of the inability to break out of credit terms relationship with stores. Freedom of action can only be gained by raising the level of income among a majority of families. This can be done by (1) greater employment opportunities or (2) income maintenance projects.

NOTES

[1] Mary Roberts Coolidge, *The Rain-Makers* (New York: Houghton Mifflin Co., 1929), p. 23.

[2] Fred Eggan, *Social Organization of the Western Pueblos* (Chicago: The University of Chicago Press, 1950), p. 253.

[3] United Pueblos Agency, *Long Range Plan, Laguna Pueblo*, 1959, p. 6.

[4] *Ibid.*, p. 20.

[5] Eggan, *op. cit.*, pp. 254-55.

[6] See Charles C. Killingsworth, "The Continuing Labor Market Twist," *Monthly Labor Review*, XCI, 9 (September, 1968), 14.

[7] U. S. Department of Labor, *Handbook of Labor Statistics 1968*, Bulletin No. 1600 (Washington, D.C.: U. S. Government Printing Office, 1968).

[8] Leon H. Keyserling, *The Role of Wages in a Great Society* (Washington: Conference on Economic Progress, 1966), p. 64.

Chapter 6

The Papago Reservation

Papago Indians inhabit not only the Papago Reservation but also the San Xavier and Gila Bend Reservations. Generically, all three are included in the study as the Papago Reservation; the reservations cover approximately three million acres of land, extending from the Mexican border in the south to near Casa Grande in the north. The Papago population has been estimated at approximately 14,000 when the off-reservation Indian is included in the total.[1]

It has been calculated that approximately 48 percent of all Papago Indians live on the reservation most of the time. Even though the reservation population appears stable in total, this does not necessarily mean that the same individuals remain on Indian land throughout the entire year. It is of interest to note that Census records indicate that nearly 60 percent of the non-reservation population moves on and off the reservation once or more each year.

The Papago survey sample was drawn on May 1, 1968 on the basis of the San Xavier Indian Health Center's on-reservation list. At that time, the total population 16 years of age and over was estimated at 3,258. The actual survey sample size is 382.

This study of the Papago deals with on-reservation employment sources, current characteristics of the manpower resource, employment and unemployment, occupation and industry characteristics, training and education, and income and expenditure patterns.

ON-RESERVATION NONFARM EMPLOYERS

The migratory nature of the Papago Indian is largely explained by the extent of nonfarm employment opportunities on the reservation. Employment by source in June, 1968, was estimated as illustrated in Table I.

TABLE I

PAPAGO RESERVATION NONFARM INDIAN EMPLOYMENT

Employer	Number Employed
Bureau of Indian Affairs	125
Papago Tribe	33
Restaurant	4
Gasoline station	3
Public Health Service	48
Churches and schools	17
Trading Posts	7
Mining	5
Kitt Peak Observatory	19
Construction—highways	2
Construction—schools	8
TOTAL	271

Opportunities for nonfarm employment on the reservation are virtually nonexistent. The 1962 report by the Bureau of Indian Affairs identified only 196 jobs.[2] The current total of 271 jobs exposes the fact that the Papago must and does leave the reservation out of economic necessity. There are no exact historical data that show precisely where the Indian takes up residence, but it is believed that it is usually in small towns adjacent to the reservation. At this point one may only conclude that the economic development shared by the State of Arizona and the United States nationally has completely passed by the Papago Reservation.

The reservation is not rich in natural resources worthy of development. It consists largely of desert land with potential evaporation estimated at eight to ten times greater than rainfall. Agricultural pursuits are generally not within the range of possibility with the exception of range grazing of cattle and livestock. Land suitable for grazing does not have the capacity to support over 12,000 head of cattle and horses. Obviously, investment in land does not appear feasible at this time. The lack of known adequate water supply has been an important impediment to development of agricultural resources.

Mineral resources are not adequate to support the on-reservation population, not to mention the Indians residing in adjacent areas who maintain close ties with relatives on Indian land. It appears that investments may better be directed toward the Papago himself, rather than to the sand and shrubbery of the barren desert reservation. Investment in the human resource requires a great deal of knowledge about the current state and potential of the Papago. It is to this task of learning about the Papago that we now turn.

Characteristics of the Manpower Resource

The Papago on-reservation population 16 years of age and over, as Table II shows, is made up of almost equal numbers of males and females: 50.8 percent are females and 49 percent are males.

TABLE II

PAPAGO POPULATION BY AGE AND SEX

	Females		Males	
Age Group	Percent of Total Females	Percent of Total Population	Percent of Total Males	Percent of Total Population
16-19	7.7	3.9	12.3	6.0
20-29	16.0	8.1	16.6	8.1
30-39	27.3	13.9	18.7	9.2
40-49	19.1	9.7	12.3	6.0
50-59	15.0	7.6	16.6	8.1
60-69	8.3	4.2	12.3	6.0
70-79	4.1	2.1	8.6	4.2
80-89	2.6	1.3	2.1	1.1
90-99	0.0	0.0	0.5	0.3
TOTAL	100.1*	50.8**	100.0	49.0**

N = 194 females; 187 males.

* Does not sum to 100 percent due to rounding.

** The two categories combined do not sum to 100 percent due to rounding.

Age and Sex

The largest single age group for both males and females is the 30-39 category. Approximately 27 percent of all Papago females are in this age group and they account for 14 percent of the working-age population. Almost 19 percent of Papago men are within the same age interval, and this group accounts for slightly over 9 percent of the reservation population.

Women between ages 20-59 constitute 77.4 percent of tribal females of working-force age. They represent just under 40 percent of the total female Papago working-age population. Men in the same age categories account for only 64.2 percent of tribal males of working age and 31.4 percent of the total tribal population.

In four of the nine age groups women account for a greater proportion of the total population than do men: 20-29, 30-39, 40-49, and 80-89. Women aged 80-89 account for roughly the same proportion of total females and the total tribal population as do males in the same age group. They represent 2.6 percent of females, and men represent 2.1 percent of males. Women and men, respectively, account for 1.3 and 1.1 percent of the tribal working-age population. Individuals of advanced age are not normally considered to be potential employees. Their contribution to tribal output is more likely to be restricted to handicraft-related tasks.

At the time of the study, no woman in the sample had attained age 90, but the sample showed about 0.5 percent of tribal men are pushing well into their nineties, and they account for 0.3 percent of the population.

Women between ages 30-49 outnumber men rather significantly. Females aged 30-39 constitute nearly 14 percent of the tribal population, whereas men account for less than 10 percent of the total. Between ages 40-49, women represent 9.7 percent of the population and men, 6.0 percent; women of this age group, therefore, are a larger potential labor resource than men. Employers who prefer to employ workers between 30-49 would find a greater available number of women than men. Together they constitute a considerable pool of potential workers.

Men and women in their twenties each account for about 8 percent of the total population. Men of this age account for a slightly greater percentage of their sex (16.6) than women of their sex (16.0). In terms of age, the potential for the labor force is about the same for men and women.

There are more male than female teen-agers of working-force age. Approximately 8 percent of women and 12 percent of men are between 16-19 years of age. Males constitute 6 percent of the total population and females account for 3.9 percent of it; therefore, job development to absorb the teen-age manpower resource would have to be more oriented toward males than females.

When the labor force potential is considered in general, however, the possibility of participation is greater for females than males. Women account for about 47 percent of the population between the ages of 16-69. Men account for about 43 percent of the total. It is assumed that little activity, outside or handicrafts, will be forthcoming after age 69. It is also assumed that employers would be reluctant to hire individuals of advanced age when a surplus labor pool of younger individuals is available.

Additional characteristics of the Papago population were ascertained through the research, and these provide further insights into the Papago labor force potential.

FAMILY CHARACTERISTICS

Marital Staus. Marital status is a good indication of the need for an individual to permanently attach himself to the labor force. Table III reports the marital status of the Papago on the basis of 381 responses. Nearly 56 percent of the working-age population is married; however, a relatively high percentage (30.2) has never married. The size of the latter group may very well indicate the lack of financial ability among many Papagos to support a family. Together, both sexes between ages 16-29 account for only 26.1 percent of the total tribal working-age population, as shown in Table II. These data indicate that the Papago may forego marriage because of a lack of

TABLE III
MARITAL STATUS OF THE POPULATION

Marital Status	Percent
Married	55.9
Widowed	9.7
Divorced	1.6
Separated	2.6
Never-married	30.2
TOTAL	100.0

N = 381

economic opportunities. The possible necessity for income sharing within families may dictate against the addition of new members to the extended family, whether the addition be a spouse or a child.

Nearly 10 percent of respondents are widowed, but only 1.6 percent reported they were divorced. Those who have been separated account for 2.6 percent of the population. It can be asserted that the Papago enjoy a relatively stable family structure. Divorces and separations combined account for only 4.2 percent of the working-age population. The relative stability of family structure may be a reflection of Roman Catholic Church influence.

Number of Children. Additionally, further characteristics of family structure are reflected in Table IV in terms of the number of children reported by respondents. The median number of children of those responding is two. This figure, however, includes single respondents as well as those who are married, divorced, and separated. There is no indication in the survey of the number of children that should actually be classified as dependents.

TABLE IV

NUMBER OF CHILDREN REPORTED BY RESPONDENTS

Number of Children	Percent
None	35.9
One	11.2
Two	9.6
Three	9.3
Four	9.3
Five	9.0
Six	4.8
Seven	2.7
Eight or more	8.2
TOTAL	100.0

N = 381

Approximately 8 percent of respondents have eight children or more, indicating a significant number of large Papago families. Roughly 9 percent of respondents replied to each category of number of children between two and five, and taken together these constitute 37.2 percent of the population. Nearly 36 percent reported having no children. It appears that Papago families are relatively large.

Table V relates the number of children and marital status of the respondent. This tabulation permits the exclusion of the never-married respondents from a calculation of median children per family unit except that those who report having children are included.

The median number of children reported by married respondents is four, compared to two previously reported as the median. Over 90 percent (91.3) of the respondents who never married do not have children. About 4 percent have children, usually one, and very few reported more than one child. Some did not choose to report, and it may well be that the decision was based on the lack of desire to report children out of wedlock.

It is significant to note that nearly 14 percent of married persons reported eight or more children. Nearly 12 percent have none. Fourteen percent report one child, and nearly 11 percent have two. About 14 percent have five children in their families. Only 3 percent reported seven children. In short, the Papago family size is large with a median of four children for married couples.

TABLE V
NUMBER OF CHILDREN BY MARITAL STATUS
(Percent)

Marital Status		Number of Children									Info. not Avail.	Total
		1	2	3	4	5	6	7	8+	0		
Married	(1)	14.2	10.9	13.7	11.3	14.2	6.1	3.3	13.7	11.8	0.9	100.1
	(2)	7.9	6.0	7.6	6.3	7.9	3.4	1.8	7.6	6.6	0.5	55.6
Widowed	(1)	16.2	16.2	10.8	18.9	10.8	10.8	0.0	5.4	10.8	0.0	99.9
	(2)	1.6	1.6	1.0	1.8	1.0	1.0	0.0	0.5	1.0	0.0	9.5
Divorced	(1)	0.0	0.0	0.0	50.0	0.0	16.7	16.7	0.0	16.7	0.0	100.1
	(2)	0.0	0.0	0.0	0.8	0.0	0.3	0.3	0.0	0.3	0.0	1.7
Separated	(1)	10.0	50.0	10.0	10.0	0.0	10.0	10.0	0.0	0.0	0.0	100.0
	(2)	0.3	1.3	0.3	0.3	0.0	0.3	0.3	0.0	0.0	0.0	2.8
Never-married	(1)	4.4	0.9	0.9	0.0	0.0	0.0	0.0	0.0	91.3	2.6	100.1
	(2)	1.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	27.6	0.8	30.3
Info. not avail.	(1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0
	(2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
TOTAL	(2)	11.1	10.1	10.1	9.2	8.9	5.0	2.4	8.1	35.5	1.6	100.2*

N = 381

(1) = Percent of total in each marital status category.

(2) = Percent of total responses

* Does not sum to 100 percent due to rounding.

Nearly 10 percent of the population is widowed. For this group of individuals, the median number of children is four. It is likely that the children reported by the widowed group are not dependent on parents for support. It may be assumed that the widowed category is comprised largely of older persons. The number of children reported by married persons, however, does not necessarily represent dependent children, either.

About half of the divorced persons reported four children whereas about 17 percent reported six and 17 percent reported seven. Nearly 17 percent reported none. One-half of those separated from their mates have two children with 10 percent, respectively, reporting one, three, four, six, and seven children. Separation status accounts for 3 percent of working-age respondents and divorce for about 2 percent.

Tables IV and V again show that Papago family size is large, and this implies responsibilities that may cause some individuals to postpone or to forego marriage. Thus, there appears to be an incentive to desire work even if individuals do not express this through actively seeking jobs.

EDUCATIONAL ATTAINMENT OF THE POPULATION

The last grade of formal education completed is normally taken as an indicator of the ability to perform skilled and unskilled tasks with minimal on-the-job instruction. Educational attainment is, therefore, an important variable considered in employer hiring standards. Table VI illustrates the educational attainments of working-age Papagos.

It is important to note that no Papago Indian reports earning a college degree. Females seem more likely to have some college education than males since more women indicated one and two years of college completed than did men. Roughly 1 percent of all females report having attended college, but only about one-half of 1 percent of the men so indicated. It seems reasonable to assert that little attention has been paid to college education by the Papago Indian. This may be due largely to pressing financial responsibility to support large family groups. It may also indicate a lack of incentive to pursue such a course.

More male than female Papagos appear to earn a high school diploma. Nearly 16 percent of the men in the survey reported completion of twelve years of formal education. This total, however, represents only 7.6 percent of the total working-age population. Approximately 11 percent of females completed high school, representing 5.5 percent of the tribal population. Only 13.1 percent of the working-age population appear to have completed four years of high school.

TABLE VI

EDUCATIONAL ATTAINMENT OF THE POPULATION

Educational Attainment by Grade Completed	Female		Male	
	Percent of Total Population	Percent of Total Females	Percent of Total Population	Percent of Total Males
None	4.7	9.3	2.9	5.9
1	3.4	6.7	5.0	10.2
2	1.6	3.1	2.4	4.8
3	3.2	6.2	1.1	2.1
4	1.9	3.6	3.4	7.0
5	3.9	7.7	1.8	3.7
6	2.4	4.6	1.8	3.7
7	4.2	8.3	3.2	6.4
8	6.0	11.9	4.5	9.1
9	4.2	8.3	6.3	12.8
10	3.9	7.7	3.4	7.0
11	2.4	4.6	2.6	5.3
12	5.5	10.8	7.6	15.5
13	0.5	1.0	0.5	1.1
14	0.5	1.0	0.0	0.0
15	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0
17+	0.0	0.0	0.0	0.0
Info. not available	2.6	5.2	2.6	5.4
TOTAL	50.9*	100.0	49.1*	100.0

N = 194 females; 187 males.

* The two categories combined do not sum to 100 percent due to rounding.

Twenty-five percent of all Papago males dropped out of high school after completing either grades nine, ten, or eleven. Even so, they still account for 12 percent of the total working-age population.

Women high school dropouts account for a smaller proportion of the total population (10.5 percent).

Those completing at least one year of high school, and including those with some college training, account for only 37.5 percent of total male and female Papago population. Approximately 57 percent of the population has completed the eighth grade or less. Five percent did not respond to the question asked. Significant training of the Papago appears to be necessary to provide them with skills enabling them to compete with the general population for jobs. The average Papago has completed only eight years of formal education. Nearly 8 percent have no formal training at all. However, appproximately 7 percent have achieved some skills by earning certificates from various technical schools.

The current educational attainments of the on-reservation Papago Indian defined as being of labor force age make it difficult to attract industry to the reservation to provide work opportunities. Considerable occupational training would be required, given the current state of technology in most industries, to raise the Papago manpower resource into an employable status.

Facility with English. Extensive training in the English language would have to be provided to prepare the Papago to participate in labor force activity. Survey respondents were asked: "What language do you most frequently speak in the home?" On the basis of 382 responses, it was found that the Indian language is spoken most frequently in the home of nearly 73 percent; only 27 percent replied that English is spoken often. About 77 percent replied they could speak English. Even so, this leaves 23 percent of the population expressing an inability to communicate in English. This finding is supported by responses to the question asked regarding whether the individual is able to read English. Approximately 73 percent are able to read newspapers and books written in English, but 27 percent can not do so. Obviously, some respondents reported that they can speak the language, but can not read it. It may well be that the relatively low levels of educational attainment are reflected here. Some Indian farm crews as well as forest firefighting crews have in the past been directed by Indians who speak both an Indian language and English. Some work pursuits, however, do not lend themselves to an indirect method of communication. Training to make the Papago employable involves far more than work-related skills training; it also seems to include the need for basic educational skills.

UTILIZATION OF THE HUMAN RESOURCE ON THE PAPAGO RESERVATION

There are estimated to be 3,258 persons 16 years of age or over residing on the Papago Indian Reservation. This is the size of the reservation's total working-age human resource at the time the survey was conducted. To what extent is this human resource utilized?

One of various indices of manpower utilization is the labor force participation rate. The participation rate indicates the extent to which Papagos are committed to the labor market. Unemployment rates provide another means of indicating the degree of utilization of the manpower resource. The latter rate reveals the extent to which those in the labor force are being utilized. The unemployment rate is not a comprehensive measure since some individuals who are included as employed may be employed only part time or on a seasonal basis even though they desire employment full time all year-round. The following sections examine the various indices of Papago manpower utilization.

TABLE VII

MAJOR ACTIVITY MOST OF THE YEAR PRIOR TO THE SURVEY

Activity	Percent
Working	26.7
With a job but not at work	0.5
Looking for work	3.7
Keeping house	30.2
Going to school	11.4
Unable to work	11.6
Retired	7.1
Other	8.7
TOTAL	99.9*

N = 378

* Does not sum to 100 percent due to rounding.

LABOR FORCE PARTICIPATION

The people contacted in the survey were asked about their primary activity in the year prior to the survey. Their responses appear in Table VII. Only 27 percent of the population responded that they had worked most of the prior year. Another 4 percent either had a job but were not at work, or were looking for work. Included in the labor force are those people working, those with a job but not working, and those looking for work. Table VII shows that only 30 percent of the Papagos 16 years of age or older are in the labor force.[3] This compares to a labor force participation rate of 59.4 percent for the United States as a whole. Thus, the labor force participation rate of the Papagos is half that of the U. S. rate. The lack of on-reservation employment opportunities provides a partial explanation of this lower participation rate.

The difference between the labor force participation rate of the Papagos and the labor force participation rate for the entire United States is of such magnitude that it warrants close attention. Why is it that only half as many Papagos as compared to corresponding numbers of the U. S. population enter the labor market?

The comparatively low rate of labor force participation cannot be explained by an unfavorable age distribution of the Papago population. The survey results indicate that there is no marked difference between the age distributions of the Papago and the United States as shown in Table VIII. Differences are relatively small and can be attributed in part to sampling variation. Differences might exist, however, because of out-of-date census data. Nevertheless, since we deal here with a population over 16 years of age, greater reliability can be attributed to the results. A note of caution is that the Papago

TABLE VIII

AGE DISTRIBUTION: PAPAGO AND UNITED STATES

(Percent 16 years of age or older)

Age Group	Papago	U. S.
16-19	10.1	8.7
20-29	16.3	17.9
30-39	23.2	20.2
40-49	15.4	18.6
50-59	15.7	14.9
60-69	10.3	11.1
70 and over	8.9	8.5
TOTAL	99.9*	99.9*

N = 381

* Does not sum to 100 percent due to rounding.

Source: U.S. Census of Population, 1960, for U.S. age distribution.

migratory pattern could alter the finding if the study were run during a month different from the one chosen (May 15–June 15).

There is a relationship between age and labor force participation on the Papago Reservation. Certain age groups are characterized by labor force participation rates that are extremely low when compared to the rates for the United States. The labor force participation rate for the 16-19 age group is 7.9 percent for the Papagos as compared to 44.2 percent for the United States (Table IX). Apparently Papagos in the 16-19 age group do not enter the labor force to the same extent as other Americans in the same age group. As revealed in Tables X and XI, the participation rate for males in the 16-19 age group is greater than the rate for females. This parallels the U. S. experience. The rates for both males and females in the 16-19 group are about 20 percent of those found for the national average representing comparable age groups.

TABLE IX

CIVILIAN LABOR FORCE PARTICIPATION RATES: PAPAGO RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Papago	U. S.
16-19	7.9	44.2
20-29	48.4	67.0
30-39	45.5	70.3
40-49	28.3	73.4
50-59	25.0	74.2
60-69	15.4	44.4
70 and over	12.1	11.2
All age groups	30.3	59.4

Source: Manpower Report of the President, 1964, for U.S. rates.

The labor force participation rates of the Papagos 70 years of age and older tend to be equal to those for the United States. The participation rate for male Papagos is greater than that for female Papagos. This is similar to the pattern that prevails for the nation as a whole. The survey results indicate that the participation rate for female Papagos is greater than the participation rate for U. S. females in the 70 and older age group. This difference may, however, be the result of sampling variation.

TABLE X
FEMALE CIVILIAN LABOR FORCE PARTICIPATION RATES: PAPAGO RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Papago	U. S.
16-19	6.6	37.4
20-29	38.7	49.2
30-39	24.5	45.2
40-49	10.8	52.2
50-59	7.0	55.9
60-69	18.8	28.4
70 and over	7.7	5.7
All age groups	18.6	41.5

Source: Manpower Report of the President, 1964, for U.S. rates.

The Papago age group with the highest labor force participation rate is the 20-29 group. Participation rates on the Papago Reservation decrease for successive age groups. The Papago experience does not parallel the U. S. experience in this respect. For the United States as a whole, participation rates continue to increase through the 50-59 age group. It would appear that whereas participation rates for the United States remain high throughout the 20-60 age period, there is

TABLE XI
MALE CIVILIAN LABOR FORCE PARTICIPATION RATES: PAPAGO RESERVATION AND UNITED STATES

(Percent by age group)

Age Group	Papago.	U. S.
16-19	8.7	51.4
20-29	58.1	88.0
30-39	77.1	97.8
40-49	56.5	96.3
50-59	41.9	92.3
60-69	13.0	63.0
70 and over	15.0	18.8
All age groups	42.5	79.7

Source: Manpower Report of the President, 1964, for U.S. rates.

a marked withdrawal from the labor force on the Papago Reservation after age 40. The Papago participation rates for the 40-49, 50-59, and 60-69 age groups are approximately one-third of the U. S. rate.

The pattern of participation rates for female Papagos is similar to that of Papagos in general except that the rates are lower for all categories of Papagos than the general U. S. experience. Female Papagos in the 20-29 age group have a labor force participation rate of 38.7 percent, which is almost 80 percent of the U. S. rate for women in this age group. Participation rates for U. S. women reach a peak of 55.9 percent for the 50-59 age group. Participation rates for Papago women reach a peak in the 20-29 age group, and fall off to 7 percent for the 50-59 group. Papago women begin their withdrawal from the labor force at a much earlier age than do women in general.

Papago male participation rates reach a peak in the 30-39 age group. The rate for Papago males in this group is 77.1 percent as compared to 97.8 percent for the United States. Whereas U. S. participation rates maintain themselves above 90 percent until the 60-69 age group is reached, Papago male participation rates drop off to 56.5 percent for the 40-49 age group and 41.9 percent for the 50-59 age group. Papago males appear to withdraw from the labor force when they are in their 40's.

Several observations emerge from this evaluation of the labor force participation rates on the Papago Reservation and their comparison with U. S. participation rates.

(a) Entry of Papagos into the labor force is delayed. This is evidenced by the relatively low participation rates of the 16-19 age group for both males and females.

(b) Papago labor force participation comes closest to U. S. labor force participation in the 20-39 age group. These relatively high Papago rates are still well below the U. S. rates.

(c) Withdrawal from the labor force begins at an earlier age on the Papago Reservation than it does in the United States as a whole. This is especially true for women, where it appears that a movement away from labor force participation begins with the 30-39 group. The decline in Papago male labor force participation rates begins with the 40-49 group.

In summary, when compared to the United States in general, the Papago has a lower rate of participation overall, later entry into the labor force, and earlier withdrawal from the labor force.

REASON FOR NOT ENTERING THE LABOR FORCE

The percentage of Papagos 16 years of age or older not in the labor force is 69.7 percent. This large group can be thought of as those not having a job and not looking for a job. The percentage of Papagos in this category is much higher than the national average. The question naturally arises as to why the Papago fails to seek employment.

The respondents in the Indian Manpower Resource Study were asked: "If you are not looking for work, what are the reasons you are not looking for work?" The replies to this question are presented in Table XII. The reason given most frequently for not seeking work was "family responsibility." More than 37 percent of the people in the survey responded that they were not looking for work for this reason. Of those that listed family responsibility as a reason for not seeking work, 86 percent were women. As shown in Table XIII, most of these women were married. Females listing family responsibility as a reason for not looking for work constituted 38 percent of the total female population in the survey. It may be that "family responsibilities" meant to men that they could not leave the reservation to seek em-

TABLE XII

REASONS GIVEN FOR NOT SEEKING EMPLOYMENT

Reason	Percent of Those Not in Labor Force*
Believes no work is available	4.0
Couldn't find work	7.0
Lacks necessary schooling, training, or experience	10.5
Employers think too young or too old	15.4
Personal handicap	5.3
Can't arrange for child care	8.3
Family responsibilities	37.7
In school or other training	9.6
Ill health or physical handicap	19.7
Other	13.6
Don't know	4.0

N = 228

* Does not sum to 100 percent since respondents were permitted to list more than one reason for not seeking work.

TABLE XIII

MARITAL STATUS OF WOMEN LISTING "FAMILY RESPONSIBILITIES" AS A REASON FOR NOT LOOKING FOR WORK

Marital Staus	Percent
Married	76.7
Widowed	4.1
Divorced	1.3
Separated	4.1
Never-married	13.7
TOTAL	99.9*

N = 73

* Does not sum to 100 percent due to rounding.

ployment in distant places because of their desire to remain close to growing families.

Those not looking for work due to ill health or physical handicap comprised 19.7 percent of the total not seeking employment. Of the 226 people not looking for work, a total of forty-five listed this reason. Sixteen of these were females and twenty-nine were males; almost twice as many males, despite the fact that there were slightly more females in the survey. A breakdown by age group and sex of

TABLE XIV

AGE DISTRIBUTION OF PEOPLE WHO WERE NOT LOOKING FOR WORK DUE TO ILL HEALTH OR PHYSICAL DISABILITY

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	6.3	6.9
30-39	6.3	17.2
40-49	18.8	3.5
50-59	37.5	24.1
60-69	25.0	34.5
70-79	0.0	6.9
80 and over	6.3	6.9
TOTAL	100.2*	100.0

N = 16 females; 29 males

* Does not sum to 100 percent due to rounding.

those who listed ill health or physical disability as a reason for not seeking work is presented in Table XIV. There is a direct relationship between age and the listing of this reason for not seeking work. Of the males offering such a response, 72.4 percent were 50 years of age or older; of the females, 68.8 percent were 50 years of age or older. These survey results suggest that deterioration of health may be an important factor contributing to early withdrawal from the labor force. It may also reflect the types of manual labor performed in the past by men; some tasks result in more injuries than others.

Some people are not in the labor force because of age. As shown in Table XII, 15.4 percent of those not seeking work listed age as a reason for their lack of activity. Table XV shows that more than 90 percent of those listing age as a reason were below 20 years of age or above 49 years of age. The IMRS questionnaire did not inquire into why the respondents think they are too young or too old. It is only possible to speculate on the reasons why those in the under 20 and over 40 brackets listed age as a reason for not seeking employment. Employers may have given Indians in these age brackets such a reason for not hiring them.

TABLE XV

AGE DISTRIBUTION OF RESPONDENTS WHO REPLIED THAT THEY WERE TOO YOUNG OR TOO OLD FOR EMPLOYMENT

Age Group	Percent of Total Responses	Percent of Total Population in Age Group
16-19	20.0	10.0
20-29	2.9	6.3
30-39	2.9	10.2
40-49	2.9	15.7
50-59	14.3	15.8
60-69	22.9	23.1
70-79	31.4	16.3
80 and over	2.9	2.6
TOTAL	100.2*	100.0

N = 35

* Does not sum to 100 percent due to rounding.

The instability of young people, generally, is widely alleged. Furthermore, men are subject to military service and some employers prefer to employ veterans so as to maintain a turnover rate as low as possible. In addition, persons over 49 may have been refused employment because of age, since the cost of fringe benefits is likely to rise significantly, which has the effect of increasing marginal costs of hiring. It may also be that workers over 49 years of age bring a sporadic employment record with them. Employers, mindful of employment costs, may prefer not to chance an increase in the turnover rate. An increase in the rate of turnover has the effect of raising incremental production costs.

Many labor economists believe that withdrawal from the labor force is related to the belief on the part of the individual that no work is available. Only 4 percent of those interviewed replied that they are not seeking work because they believe no work is available, but another 7 percent replied that the reason for not seeking work is because they could find none. This response also reflects the fact that the people interviewed believed that there was no work available.

The third reason listed in Table XII is also related to the availability of work. Of the respondents who replied that they were not looking for work, 10.5 percent gave the reason as being that they lacked the necessary schooling, training, or experience. The median years of school completed by persons in this group is six. The median education level attained by all persons interviewed is eight years. Those people who are employed have a median education level of ten years. Persons responding that they did not seek employment because they lacked the necessary schooling, training, or experience appear to have a lower education level than employed individuals. Less than one-third of those responding that they lacked schooling, training, or experience achieved some high school training, but some had completed twelve years of school. It is likely that some of those not seeking work and giving the lack of sufficient education, training, or experience as their reason do, in fact, have sufficient education. It is probable that some of the people in this category are unaware of employment opportunities for people with their level of education. It is possible that these people would go to work if jobs consistent with their level of education could be developed.

Certain tentative conclusions can be drawn from the responses to the question on reasons for not seeking work. First, labor force participation of women is very much related to their family status. Reentry into the labor force after child rearing has been completed does not appear to be frequent on the Papago Reservation. Second, Papagos under 20 and over 49 regard themselves as being excluded from employment because of age. And finally, the lack of labor force participation can, in large part, be attributed to the belief that employment opportunities are unavailable.

EMPLOYMENT EXPERIENCE OF THOSE NOT USUALLY EMPLOYED

Those respondents who were not working in the year prior to the survey were asked: "When did you last work at a regular full- or part-time job or business?" Usable responses were received from 230 Papagos. Approximately 95 percent of these people are not in the labor force. Table XVI reveals 46.5 percent of those who were not employed during the year previous to the survey had never been employed.

TABLE XVI

TIME OF LAST EMPLOYMENT OF THOSE NOT IN LABOR FORCE

Time	Percent Responding
Within past twelve months	4.8
One to two years ago	4.8
Two to three years ago	3.4
Three to four years ago	3.9
Four to five years ago	6.1
Five or more years ago	30.4
Never worked	46.5
TOTAL	99.9*

N = 230

* Does not sum to 100 percent due to rounding.

Another 30 percent were employed at some time in their lives but had not been employed during the past five years. Thus, 76.9 percent of those people not employed in the year previous to the survey had either never been employed or had not been employed for more than five years. This appears to be a group that has been out of the labor force for a substantial period of time. Their lack of participation in the labor market cannot be attributed to short-run factors.

Of the eighty-seven Papagos reporting that they never worked, 72.4 percent were women. As shown in Table XVII, married women comprised more than half of the total female group that has never

TABLE XVII
MARITAL STATUS OF THOSE WHO NEVER WORKED
(Nonstudents)

Marital Status	Percent Female	Percent Male
Married	58.7	29.2
Widowed	15.9	29.2
Divorced	0.0	0.0
Separated	3.2	0.0
Never-married	22.2	41.6
TOTAL	100.0	100.0

N = 63 females; 16 males.

worked. On the other hand, the largest group of men that has never worked are in the never-married category. While the age distribution of women who have never worked is spread over all age classes, men who have never worked appear to be concentrated in the 50 and over age groups as shown in Table XVIII. Those who have never worked have a low level of educational attainment. The median years of school completed for the males who have never worked is one year. When this level is compared to the median of nine years of school for men who are employed, the seriousness of minimal education as a factor in keeping men out of the labor force can be appreciated. The median years of school completed by Papago women who

TABLE XVIII
AGE DISTRIBUTION OF THOSE WHO NEVER WORKED

Age Group	Percent Female	Percent Male
16-19	3.1	8.3
20-29	7.9	8.3
30-39	27.0	8.3
40-49	23.8	4.1
50-59	15.9	12.5
60-69	9.5	20.8
70 and over	12.7	37.5
TOTAL	100.0	99.8*

N = 63 females; 24 males.

* Does not sum to 100 percent due to rounding.

have never worked is four years. This compares to a median of eleven years completed for women who are usually employed. This difference among females is still large but not as large as the difference found for males. The smaller difference for women reflects the importance of other factors in terms of female commitment to the labor force. The most important other factor is marital status. Regardless of the number of years of school completed, some married women are likely to withdraw from the labor force. After considering age and marital status, the data suggest that the characteristic that separates those who have never been in the labor market from other members of the Papago community is the low level of educaion of the group that has not been in the labor force.

Seventy Papagos replied that they had worked at some time, but not during the past five years. Of these people, 64.2 percent were women. As shown in Table XIX, 73.3 percent of the women in this group were married and 56 percent of the men were married. While such a high percentage would be expected for women, the high percentage of married men who have not worked in five or more years is difficult to explain except in terms of age.

TABLE XIX
MARITAL STATUS OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Marital Status	Percent Female	Percent Male
Married	73.3	56.0
Widowed	9.0	16.0
Divorced	0.0	4.0
Separated	2.2	4.0
Never-married	15.5	20.0
TOTAL	100.0	100.0

N = 45 females; 25 males.

As shown in Table XX, 96 percent of all the males who had not worked for five or more years are 40 years of age or older. Of the men in this group, 56 percent are 60 years of age or over. This suggests that one of the major factors contributing to men not working for five or more years is age rather marital status. The ages of women who have not worked for five or more years are dispersed over all age groups suggesting that the marital status is more important than age in explaining this long-term withdrawal from the labor market.

TABLE XX

AGE DISTRIBUTION OF THOSE NOT EMPLOYED FOR FIVE OR MORE YEARS

Age Group	Percent Female	Percent Male
16-19	0.0	0.0
20-29	8.9	4.0
30-39	24.4	0.0
40-49	26.7	12.0
50-59	26.7	28.0
60-69	6.7	32.0
70 and over	6.6	24.0
TOTAL	100.0	100.0

N = 45 females; 25 males.

The educational attainment of those who have not been employed for five or more years is as expected. The median years of school completed for women who have not worked for five or more years is seven. This compares to a median of eleven years for women who are employed. The median years of school completed for men who have not worked for five or more years is four. This compares to a median of nine years for those men who are usually employed. The relatively low level of education of men who have not worked in the past five years gives some indication of the problems that might be encountered if they tried to enter the labor force. The low level of education also reflects the age distribution of the Papago population in this category.

Papagos in School or Other Training Programs. Persons not looking for work during the past year were asked to give the reasons why they had not engaged in job seeking. One aspect of the question was to determine how many are in school or in training programs preparing for an occupation. Table XXI reveals that most of those in training, but not currently seeking work are in the 16-19 age group, which accounts for nearly 64 percent of those engaged in such activity. It seems likely that many of this group are in high school as opposed to specific job-related training programs. Even though educational training among those not seeking work is concentrated largely in the teen-age group, the proportion of the population so engaged is still small, accounting for only 3.7 percent. On the other hand, some individuals in the older age groups appear to be seeking preparation for employment. Approximately 18 percent of the total in

TABLE XXI

PAPAGOS IN SCHOOL AND MISCELLANEOUS TRAINING PROGRAMS

(By age)

Age	Percent of Population	Percent of Total in Training
16-19	3.7	63.6
20-29	1.1	18.2
30-39	0.3	4.6
40-49	0.0	0.0
50-59	0.3	4.6
60-69	0.5	9.1
70-79	0.0	0.0
80-89	0.0	0.0
TOTAL	5.9	100.1*

N = 22

* Does not sum to 100 percent due to rounding.

school or training were in the 20-29 age group. Persons of this age are normally beyond the high school age and, therefore, are quite likely enrolled in skills training programs. Again, the proportion of the population so engaged is small, representing only about 1 percent.

Younger persons are by no means the only ones engaged in training. About 9 percent of those not seeking jobs but undergoing training were in the 60-69 age category. Yet, the proportion of the population they represent is less than 1 percent. These older individuals may still consider employment a possibility. Some training was also undertaken by persons in their fifties. The age group 50-59 accounts for nearly 5 percent of all in training, but considerably less than 1 percent of total working-age population.

Individuals in their thirties also account for about 5 percent of those taking training of some type. But, once again, this group constitutes less than 1 percent of the total population.

Obviously, some individuals considered to be outside the labor force are in the process of undertaking some training. Some undoubtedly are in pursuit of a high school diploma. Others look beyond the training toward jobs. It is not unreasonable to assert that some of the Papagos are attempting to attach themselves to the labor force.

Those people who were not usually employed during the year previous to the survey but were employed at some time in the past were asked why they left their last job. As Table XXII shows, the reason most frequently given is "personal, family, or school." "Health" and "retirement or old age" appear to be important reasons. The next four categories in Table XXII refer to labor market conditions being responsible for leaving the last job. These four categories suggest in total that a substantial number of workers left their last employment because of labor market conditions, primarily the lack of employment opportunities. These people could possibly be recruited back into the labor force.

TABLE XXII

REASON FOR LEAVING LAST JOB

Reason	Percent Responding
Personal, family, or school	30.6
Health	19.0
Retirement or old age	9.9
Seasonal job completed	14.9
Slack work or business conditions	4.1
Temporary nonseasonal job completed	6.6
Unsatisfactory work conditions	2.5
Other	12.4
TOTAL	100.0

N = 121

UNEMPLOYMENT

Respondents were asked what they were doing most of the year prior to the survey (Table VII). The concept of unemployment used in this study is best described as that of being usually unemployed during the year prior to the study. It should be noted that an individual may have done some work during the year, but if he was not working most of the year he is counted as unemployed. In addition to not working most of the time, the usually unemployed must also have looked for work during the year prior to the study. Those who were not looking for work because they believed no work was available are not counted as being unemployed in this study, even though they would have been counted as being unemployed by the Bureau of Labor Statistics. The IMRS staff decided to count these people as not part of the labor force. This exclusion from the unemployed category reflects the position that those who spend most of one year believing that there is no work available in the community and do not look for work, would be best described as being alienated from the labor force. The exclusion from the unemployment category of those who believe that no work is available reflects the fact that the Indian Manpower Resource Study questionnaire focuses on activity over the year previous to the survey whereas the Current Population Survey focuses on the previous week.

Papago unemployment rates are substantially higher than U. S. unemployment rates and unemployment rates for the State of Arizona. For the year previous to the survey, 11 percent of the Papagos replied that they were usually looking for work. The Papago unemployment rate is approximately three times the national and state rates. The Papago rate appears to be especially large in light of the low labor force participation rates characterizing the Papago population. The Papago labor force participation rate is half that of the United States and the unemployment rate is three times as large as that of the United States.

Males constitute the larger proportion of the unemployed on the Papago Reservation; females constitute less than 15 percent of the unemployed whereas males constitute more than 85 percent of the group. At this point attention is focused on males since female cell frequencies were so small in the unemployment category as to leave little or no basis for analysis. Half of the unemployed males are married. The age distribution of unemployed males is presented in Table XXIII. In the IMRS, none of the males less than 20 years of age are by definition unemployed. None of the males looking for work are in this age group. However, males 60 years of age or over responded

TABLE XXIII

AGE DISTRIBUTION OF MALES USUALLY UNEMPLOYED

Age Group	Percent
16-19	0.0
20-29	41.7
30-39	25.0
40-49	8.3
50-59	25.0
60 and over	0.0
TOTAL	100.0

N = 14

that their primary activity in the year previous to the survey was looking for work. Of the unemployed males 66.7 percent are in the age group 20-39, the ages in which males are most likely to be employable. Another concentration of unemployment appears in the 50-59 age group. Unemployment rates are highest for the male Papagos in the age group 20-29 as shown in Table XXIV. It should be noted that it is this same age group that was previously characterized as increasing its labor force participation rate. It appears that those entering the labor force while in their twenties are having difficulty finding employment. Unemployment rates are also quite high for male Papagos in their fifties. The low labor force participation rates for male Papagos 60 years of age or older account for the low unemployment rate in this group.

TABLE XXIV

UNEMPLOYMENT RATE BY AGE GROUP

Age Group	Percent Males
16-19	0.0
20-29	27.8
30-39	11.1
40-49	7.7
50-59	23.1
60-69	0.0
70 and over	0.0

While education offers a good explanation for the reported labor force participation rates, it does not adequately describe unemployment rates. The median completed years of school of the male unemployed was eight years as compared to a median education level of nine years for employed males. Of the male unemployed, 25 percent had twelve or more years of education.

The previous sections have been directed to those who were usually unemployed; that is, those who spent most of the year previous to the survey looking for work. Another insight into unemployment can be gained by looking at that group that did not work at all during the year prior to the survey. This group includes those who were totally unemployed and those who were not in the labor force.

Of those who did not work at all during the year prior to the survey, 6.5 percent looked for employment at some time. Looking for work, however, may not have been their primary activity during the year. Included in this group, for example, could be housewives whose primary activity was keeping house, but who looked for a job at some time. Table XXV shows that some of those who looked for work sought part-time only.

TABLE XXV
PERCENTAGE OF THOSE NOT WORKING WHO ARE LOOKING FOR WORK
(By type of work)

Category	Percent
Full-time	3.3
Part-time	1.6
Both	1.6

N = 235

People looking for work contact several sources. Table XXVI shows that the informal procedure of contacting friends and relatives was the most widely used job search method. This is consistent with the behavior of the U. S. labor force in general. The Arizona State Employment Service had been contacted by 25 percent of those in the group who looked for work even though the Service did not have a full-time office on the Papago Reservation until a few months before the survey was conducted. Newspaper want ads are scarcely used at all by the reservation residents. This may be attributed to the relative

TABLE XXVI
SOURCES CONTACTED ABOUT WORK INFORMATION BY THOSE LOOKING FOR WORK IN PREVIOUS YEAR

Source	Percent*
Bureau of Indian Affairs	0.0
Arizona State Employment Service	25.0
Private employment service	12.5
Employer directly	18.8
Friends or relatives	37.5
Placed or answered ads	6.2
Other	31.3

N = 16
* Does not sum to 100 percent due to multiple responses.

isolation of the reservation vis à vis the places were newspapers are published. It also may be attributed to the relatively low level of education of the Papago population. The Bureau of Indian Affairs does not appear to be a source of job information on the Papago Reservation. The explanation for this may lie in the fact that the Bureau may rely on the Arizona State Employment Service to provide employment assistance and is not interested in duplicating services that the State Employment Service is eager to provide. In addition, the failure of the Papagos to contact the BIA when employment is desired may reflect the uneasy relationship between the BIA on the Papago Reservation and the Papago leaders. The Arizona State Employment Service effort will be enlarged since more resources have been committed to the Papago Reservation.

Those Papagos who had looked for a job in the year prior to the survey and who did not work at all during that year were asked why they had difficulty in finding a job. Their reasons are presented in Table XXVII. Most attributed their lack of success to the unavailability of jobs or to their poor preparation for the job market. Age is also a common explanation for inability to obtain work. Health and transportation do not appear to be major problems in this regard. Transportation may, however, be a prime source of difficulty because it is not widely available on the reservation.

UNDEREMPLOYMENT

Low labor force participation rates and high unemployment rates provide only a partial description of the labor activity of the Papago

TABLE XXVII

REASONS FOR DIFFICULTY IN FINDING A JOB BY THOSE NOT WORKING BUT LOOKING FOR WORK

Reason	Percent*
No jobs available	46.7
Age—too old, too young	26.7
Lack necessary skill or experience	40.0
Lack of necessary education or training	13.3
Health problems, physical disability	0.0
Personal problems—police record, bad debts	13.3
Transportation	6.7

N = 15

* Does not sum to 100 percent due to multiple responses.

population. Taken by itself either one is misleading and even a combination of the two fails to describe manpower utilization since it fails to account for the irregularity of employment. In many cases employment is not on a full-time basis. This section provides an overall view of all of these important factors.

Only 36 percent of Papagos worked in the year previous to the survey. As shown in Table XXVIII, 78.4 percent of all females did no work. Males fared slightly better, but 48.7 of all the Papago males 16 years of age or over did no work in the year prior to the survey.

TABLE XXVIII

DISTRIBUTION OF PEOPLE BY MONTHS WORKED AND SEX

Months Worked	Percent of Population	Percent Female	Percent Male
0	63.9	78.4	48.7
1 - 3	13.1	6.7	19.8
4 - 6	5.5	4.1	7.0
7 - 9	5.8	5.7	5.9
10 - 12	11.8	5.2	18.7
TOTAL	100.1*	100.1*	100.1*

N = 194 females; 187 males.
* Does not sum to 100 percent due to rounding.

Table XXIX shows that even among those Papagos who did work, year-round employment was the exception rather than the rule. Just

TABLE XXIX

DISTRIBUTION OF THOSE WHO DID SOME WORK
BY NUMBER OF MONTHS WORKED

Months Worked	Percent
1 - 3	36.2
4 - 6	15.2
7 - 9	15.9
10 - 12	32.6
TOTAL	99.9*

N = 138
* Does not sum to 100 percent due to rounding.

one-third of respondents worked as much as ten to twelve months. More than half of those who worked, worked for less than six months.

Papago respondents who worked were asked if they usually worked year-round, seasonally, or irregularly. As shown in Table XXX, 46.3 percent of the working-age Papagos indicated that they work year-round. This suggests that some of those who worked seven to nine months must consider their employment as being year-round employment.

TABLE XXX
USUAL TYPE OF EMPLOYMENT

Type of Employment	Percent of Workers
Year-round	46.3
Seasonal	33.6
Irregular	20.2
TOTAL	100.1*

N = 134
* Does not sum to 100 percent due to rounding.

A third of all those who were employed in the year previous to the survey were seasonal workers. The seasonal workers were asked in which season or seasons they usually worked. As shown in Table XXXI, the summer season is by far the most important to the seasonal worker. This partially reflects the importance of agricultural occupations on the Papago Reservation. In addition, students may enter the labor force during the summer months.

Age is related to the number of months employed. For example, a very small percentage of the age group 16-19 years worked more

TABLE XXXI
DISTRIBUTION OF SEASONAL EMPLOYMENT

Season	Percent of Seasonal Workers Employed
Spring	11.1
Winter	16.7
Fall	7.4
Summer	64.8
TOTAL	100.0

N = 54

TABLE XXXII

AGE DISTRIBUTION BY NUMBER OF MONTHS WORKED

	Months Worked				
Age group	0	1-3	4-6	7-9	10-12
16-19	9.5	28.0	0.0	4.5	0.0
20-29	11.1	22.0	42.9	27.3	20.0
30-39	19.3	22.0	33.3	50.0	26.7
40-49	16.9	12.0	14.3	4.5	20.0
50-59	16.9	14.0	4.8	13.7	17.8
60-69	13.6	2.0	4.8	0.0	8.9
70 and over	12.8	0.0	0.0	0.0	6.7
TOTAL	97.1*	100.0	100.1*	100.0	100.1*
Number in each group	243	50	21	22	45

* Does not sum to 100 percent due to rounding.

than three months. Most of those who worked more than three months are in the 20-39 age bracket. This information is presented in Table XXXII. The sample size was not large enough to estimate each individual cell in the table with a high level of confidence. The table, however, provides a rough estimation of the relationship between the number of months worked and age.

There is also a strong relationship between marital status and the number of months worked. Of all the married females in the survey, 84.1 percent worked not at all (Table XXXIII). More than half of married males worked three months or less. A smaller percentage of those never married did no work at all during the year prior to the

TABLE XXXIII

DISTRIBUTION OF MONTHS WORKED FOR MARRIED PAPAGOS

Months Worked	Percent Female	Percent Male
0	84.1	37.3
1 - 3	3.5	16.2
4 - 6	2.7	8.1
7 - 9	4.4	9.1
10 - 12	5.3	29.3
TOTAL	100.0	100.0

N = 113 females; 99 males.

TABLE XXXIV
DISTRIBUTION OF MONTHS WORKED FOR NEVER-MARRIED PAPAGOS

Months Worked	Percent Female	Percent Male
0	66.7	52.2
1 - 3	12.5	31.3
4 - 6	4.2	6.0
7 - 9	10.4	3.0
10 - 12	6.2	7.5
TOTAL	100.0	100.0

N = 48 females; 67 males.

survey, as shown in Table XXXIV. Male respondents who have never married report doing no work to a lesser extent than do married males. A greater proportion of the marrieds work six months or more than work shorter time periods, although many married workers do not work year-round. Married workers rather than unmarried constitute a larger proportion of Papagos who work ten to twelve months, as may be seen in Table XXXV. Of all males who worked ten to twelve months, 82.9 percent are married. Obligations to provide for dependents appear to stimulate greater vigor in seeking income.

TABLE XXXV
MARITAL STATUS OF THOSE WHO WORKED TEN TO TWELVE MONTHS

Marital Status	Percent Female	Percent Male
Married	60.0	82.9
Widowed	0.0	2.9
Divorced	0.0	0.0
Separated	10.0	0.0
Never-married	30.0	14.3
TOTAL	100.0	100.1*

N = 10 females; 35 males.
* Does not sum to 100 percent due to rounding.

HOURS WORKED

Not only is Papago employment characterized by short duration in terms of months worked, but also some work seemingly requires less than 40 hours. Those Papagos usually employed were asked how

TABLE XXXVI
HOURS PER WEEK USUALLY WORKED BY EMPLOYED PAPAGOS

Hours	Percent of Total
1 - 14	5.8
15 - 29	6.6
30 - 34	3.7
35 - 39	3.7
40	51.1
41 - 48	8.7
49 - 59	10.9
60 or more	9.5
TOTAL	100.0

N = 137

many hours they ordinarily worked at all jobs. Of those usually employed, 19.8 percent worked less than 40 hours, and 16.1 percent worked less than 35 hours, as shown in Table XXXVI. However, slightly over one-half (51.1 percent) worked the standard 40-hour work week. A large proportion were required to work longer than the standard 40-hour week, however. Almost 9 percent worked between 41 and 48 hours, and approximately 11 percent (10.9) were on the job between 49-59 hours. Those who worked less than 35 hours were asked the reason, and responses are recorded in Table XXXVII. Of those responding, 30 percent gave slack work or the unavailability of full-time employment as reasons for working 35 hours or less. Still another 9.5 percent worked 60 hours or more per week when working. Generally, it appears that long hours are required of those Papagos who usually worked. Approximately 80 percent of working-age Papagos work 40 hours or more per week. It is possible that such a condition reflects the heavy concentration in agricultural and service-related industries.

INDUSTRY AND OCCUPATIONAL EXPERIENCES

INDUSTRY EXPERIENCES

The distribution of Papagos into industries is limited. Table XXXVIII reveals the precise industries in which the on-reservation

TABLE XXXVII

REASON FOR WORKING 35 HOURS OR LESS

Reason	Percent of Those Working 35 Hours or Less
Slack work	23.8
Material shortage	0.0
Plant or machine repair	0.0
Could only find part-time work	4.8
Labor dispute	0.0
Bad weather	0.0
Own illness	0.0
Too busy with housework, school, business, personal, etc.	28.6
Did not want full-time work	4.8
Full-time work under 35 hours	23.8
Other reason	14.3
TOTAL	101.1*

N = 27

* Does not sum to 100 percent due to rounding.

tribesmen have had experience over the past five years, including current employment. The industries include both on- and off-reservation employment. The table is based on 189 responses, since 193 had not been engaged in gainful employment during the past five years or did not supply the information requested. Ranked in order of numbers of workers, the Papago is concentrated in three broad industry categories: government, agriculture, and services.

Government provides one-third of all employment opportunities for the Papago. The federal government is by far the most important employer among the three governmental levels. This is occasioned by the sheer fact that the Bureau of Indian Affairs and the Indian Health Service have relatively large operations on the reservation. Some employment is provided at both the state and local government level, but they provide only about 20 percent of that provided by federal government.

Approximately, 30 percent of Papagos depend on agriculture for a livelihood. Nearly all the respondents engaged in agricultural production are employed at tasks such as cattle herding, work on cotton farms, and work in citrus groves. However, it should be observed that it is in these categories that opportunities for employment are declining. New techniques of harvesting most crops, including citrus, may well eliminate most of the sources of seasonal work, which has been a large factor in providing Papago income.

The services industry category accounts for 23 percent of Papago employment experiences and it should be noted that domestic services account for over one-half of this category. Janitors and cooks in educational institutions also account for a significant number of services employees.

All the other industry categories provide some employment, but entry is limited. Mining employs only about 2 percent of the working-age population, as does manufacturing. A somewhat higher percentage

TABLE XXXVIII

PAPAGO EMPLOYMENT BY INDUSTRY CLASS

(Number and percent)

Code	Industry		Number	Percent of Total
	AGRICULTURE, FORESTRY, AND FISHERIES			
01	Agricultural production	54		
07	Agricultural services and hunting and trapping	2		
08	Forestry	1		
	Subtotal		57	30.2
	MINING			
10	Metal mining	3		
	Subtotal		3	1.6
	CONTRACT CONSTRUCTION			
15	Building construction—general contractors	6		
16	Construction other than building—general contractors	4		
17	Construction—special trade contractors	1		
	Subtotal		11	5.8
	MANUFACTURING			
20	Food and kindred products	1		
36	Electrical machinery, equipment, and supplies	3		
	Subtotal		4	2.1
	WHOLESALE AND RETAIL TRADE			
53	Retail trade—general merchandise	2		
54	Food stores	1		
58	Eating and drinking places	4		
	Subtotal		7	3.7

TABLE XXXVIII (continued)

Code	Industry		Number	Percent of Total
	SERVICES			
73	Miscellaneous business services	1		
75	Auto repair, services and garages	1		
80	Medical and other health services	5		
82	Educational services	9		
86	Nonprofit membership organizations	3		
88	Private households	24		
89	Miscellaneous services	1		
	Subtotal		44	23.3
	GOVERNMENT			
91	Federal government	52		
92	State government	5		
93	Local government	6		
	Subtotal		63	33.3
TOTAL			189	100.0

N = 189

of Papagos are employed in the contract construction category (5.8), but this category includes some self-employment. Wholesale and retail trade accounts for a source of experience in employment also since at some time in the past 3.7 percent have worked in establishments dealing with general merchandise, food, or drinks.

It is obvious that the range of Papago experience in all industry classes is limited. Most experience appears limited to employment that can best be regarded as entry level work. For this reason, there is a greater opportunity to obtain work when the economy in general experiences high levels of aggregate demand. Further information about Papago work experience is obtained by a review of occupational experiences within the industry categories mentioned.

OCCUPATIONAL EXPERIENCES

Occupations in which the Papago have worked during the five years prior to the survey were revealed by 189 respondents. As was the case in the industry classification section, 193 respondents had not worked during the previous five-year period. Table XXXIX reveals

TABLE XXXIX

PAPAGO EMPLOYMENT BY OCCUPATIONAL TITLE

(Number and percent)

Code	Description		Number	Percent of Total
	PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS			
00, 01	Occupations in architecture and engineering	1		
07	Occupations in medicine and health	1		
09	Occupations in education	1		
16	Occupations in administrative specialization	4		
18	Managers and officials, not elsewhere classified	5		
19	Miscellaneous professional, technical, and managerial occupations	3		
	Subtotal		15	7.9
	CLERICAL AND SALES OCCUPATIONS			
20	Stenography, typing, filing, and related occupations	4		
21	Computing and account–recording occupations	2		
24	Miscellaneous clerical occupations	1		
29	Merchandising occupations, except salesmen	1		
	Subtotal		8	4.2
	SERVICE OCCUPATIONS			
30	Domestic service occupations	22		
31	Food and beverage preparation and service	11		
32	Lodging and related service occupations	1		
35	Miscellaneous personal service occupations	8		
37	Protective service occupations	4		
38	Building and related service occupations	6		
	Subtotal		52	27.5
	FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS			
40	Plant farming occupations	14		
41	Animal farming occupations	12		
42	Miscellaneous farming and related occupations	35		
44	Forestry occupations	2		
	Subtotal		63	33.3
	PROCESSING OCCUPATIONS			
52	Processing of food, tobacco, and related products	2		
57	Processing of stone, clay, glass, and related products	1		
	Subtotal		3	1.6

TABLE XXXIX (continued)

Code	Description	Number		Percent of Total
	MACHINE TRADE OCCUPATIONS			
62, 63	Mechanics and machine repairmen	6		
66	Wood machining operations	1		
	Subtotal		7	3.7
	BENCH WORK OCCUPATIONS			
72	Occupations in assembly and repair of electrical equipment	3		
	Subtotal		3	1.6
	STRUCTURAL WORK OCCUPATIONS			
82	Electrical assembly, installing, and repair occupations	1		
84	Painting, plastering, waterproofing, cementing, and related occupations	3		
86	Construction occupations, not elsewhere classified	12		
89	Structural work occupations, not elsewhere classified	3		
	Subtotal		19	10.1
	MISCELLANEOUS OCCUPATIONS			
90	Motor freight occupations	1		
91	Transportation occupations, not elsewhere classified	7		
92	Packaging and materials handling occupations	3		
93	Extraction of minerals	7		
95	Occupations in production and distribution of utilities	1		
	Subtotal		19	10.1
TOTAL			189	100.0

N = 189

the occupations worked at recently enough that it is possible to assume that any skill required to perform similar work could be re-learned with minimum cost to employers.

One-third of the Papagos have had relatively recent experience in agricultural related occupations. Most of the experience gained is in the general helper category known as agricultural day laborers. That is, most work experience has been at farm jobs that are miscellaneous in nature. Workers fill in and perform any general tasks assigned.

Some are experienced in the plant farming category such as vegetable growing. Still others have experience herding cattle, horses, and sheep. Fire wardens and tree pruners are also combined in the general category relating to forestry experience rather than the pursuits attributed to agriculture.

In the services industry, domestic services and food and beverage preparation are the occupations Papagos are most likely to perform. Nearly 28 percent of respondents revealed a range of service experiences other than domestic and food preparation. These range from work on the tribal police force to work in hotels and motels.

Ten percent have experience in structural work occupations. Most are concentrated in the general contract category including iron working, carpentry, painting, and cement work. A few have experience in electrical assembly, a category largely reflecting the electronics assembly work located on the reservation.

Another 10 percent have experience dealing with motor freight and transportation generally. In addition, mineral extraction and work for utility companies are also included.

Some of the respondents have had experience in professional, technical and managerial occupations. These range from occupations as practical nurses and laboratory technicians in hospitals to social welfare work. Managerial experience is also included in the 8 percent falling within the broad occupational category. As one example of the range of experience, an elementary teacher is included in the total.

Approximately 4 percent of respondents have worked in clerical and sales occupations. The normal office occupations, stenography, typing, and filing predominate; few attain occupations higher than the normal office responsibilities that accompany secretarial tasks.

In brief, Papagos have had limited job-related experiences. The majority can be categorized as being at the labor market entry level. A large number of jobs are seasonal in nature and many may not even be steady. It has been suggested that the Papago is ill-equipped to compete in a loose labor market or one marked with substantial unemployment. Most Papagos may receive work experiences during high level economic activity. In periods of relatively low aggregate demand for goods and services, it is likely that the Papago is at a disadvantage in the labor market. Thus, despite some occupational experiences, he is forced back toward agricultural types of work.

Location of Present Job. Papago respondents who usually worked were asked to reveal if their present job is located on or off the reservation. Nearly 70 percent reported on-reservation employment and about one-third of the jobs are agricutlurally related. Only 30.2 percent of respondents travel off the reservation to their employment. Few opportunities to work seem to be available on the reservation but such tasks as are performed are predominantly on-reservation; not much work is done off the reservation.

Source of Learning Present Job. Individuals usually working were asked to report where they had learned to perform their present job. Table XL reveals that 54 percent of respondents who are usually working learned to perform their job by receiving instruction from employers. This is as expected since most work is usually peculiar to particular employers even if it is a common labor agricultural task as revealed previously.

Only 1 percent identified training received while in the Armed Forces as the source of learning their present job. It should be recognized that there may be some carry-over from tasks performed while in uniform to similar civilian pursuits. Roughly 6 percent responded that government sponsored training programs provided the basis for performance on the job. The types of training provided in such programs are varied, but seemingly provide trainees with the necessary background to obtain jobs related to instruction received.

Formal education was the source of learning to perform their jobs for 7.2 percent of respondents. It seems likely that much of this is related to office skills since most secondary education is general and not specifically related to any given job. As an alternative, the formal source may only have been the basis of receiving the job in the first place with specific instruction provided after employment.

The second largest source of training for job performance was listed as in the "other" category by 32 percent of respondents who

TABLE XL

SOURCE OF TRAINING TO PERFORM JOB

Source	Percent
Taught by employer	53.6
Government training program	6.4
Armed services	0.8
Formal education	7.2
Other	32.0
TOTAL	100.0

N = 125

work. This category includes such sources as self-taught and instruction from friends and relatives.

One percent of the 382 Papago respondents hold union cards. For a few, union training programs were instrumental in teaching job skills. Indian union membership, however, is not large. This is reflected in the types of jobs normally filled by Papagos, which are not generally those that have received union organizational attention in the past. As a general rule, it can be asserted that Indians have not been exposed to union apprenticeship programs. A part of this is due to the general lack of educational attainment to qualify for such instruction. Some of the blame can, undoubtedly, be cast at the lack of information available to Papago male high school graduates. Unions have not solicited trainees from minority race members. Still another aspect might be the nature of the local market itself, which is generally characterized as one containing an excessive supply of unskilled labor. Indians on the Papago Reservation are poorly located geographically in relation to areas where there may be demand for unskilled services. Even when there is an increased demand for skills such as they possess, they generally have not been informed of job availability. This geographic isolation and general lack of labor market participation are reflected in the low occurrence of union membership.

Skills Training Without Subsequent Job Experience. Respondents were asked to reveal any job oriented training they may have received, but had not been able to utilize on the job. Nearly 8 percent of 369 responses indicated the existence of latent skills among the population. Further questioning identified training for occupations as nurses, welders, carpenters, photographic equipment repairmen, and general electronics technicians. It may well be that some individuals could obtain work in other areas, but an unwillingness to move to places where firms are located renders the possession of such skills useless. Latent skills among the population are not abundant, and potential employers who might locate on the reservation would face a considerable training task.

SOURCES OF INCOME

Insights into incentives of the Papago to participate in the labor force or alternatively to remain on the reservation can be gained by reviewing the source and amount of earned and unearned income of respondents. It is also desirable to break down the income data by age, sex, and educational attainment level of respondents to determine the influence education has had on the economic well-being of the population. Analysis is also made of individually-earned income relative to family-earned income to estimate the extent of income sharing and to assess the economic well-being of the Papagos. This section of the survey encountered the problems inherent in asking persons to discuss their financial status, and to respond on the basis of recall without the aid of records.

EARNED AND UNEARNED INCOME

Respondents were asked to state all sources and amounts of both individual and family income and their responses are presented in Table XLI.

Family Income. It is significant that 92.2 percent of individuals of working age received less than $3,000 annual income. Furthermore, despite the obvious income sharing among family members, total family income reported shows that 84.6 percent subsist on less than $3,000 per year. The 84.6 percent refers to unadjusted family income. This data offers a possible reporting bias from the greater probability that several members from large families would have been selected in the sample rather than several members from smaller families. The un-

TABLE XLI
INDIVIDUAL AND FAMILY INCOME

Amount (Dollars)	Individual (Percent)	Family Unadjusted (Percent)	Family Adjusted (Percent)
0	27.7		
1 - 499	33.1	38.0	38.3
500 - 999	17.7	22.6	22.5
1,000 - 1,999	9.8	15.4	16.8
2,000 - 2,999	3.9	8.6	8.1
3,000 - 4,999	3.6	8.6	8.1
5,000 - 9,999	3.9	5.7	5.3
10,000 - and over	0.3	1.1	1.1
TOTAL	100.0	100.0	100.2*

N = 357 individual; 350 unadjusted family; 285 adjusted family.

* Does not sum to 100 percent due to rounding.

adjusted family income does not correct for the possible bias. The adjusted family income portion of Table XLI eliminates multiple family members and reports on the basis of only one member per family. Actually, there is little difference between the adjusted and unadjusted family incomes and reference is therefore directed to the unadjusted family income data.

The median number of children per Papago family is four. It appears, then, that a high percentage of the on-reservation population lives in poverty. About 61 percent of individuals reported an annual income of less than $500 and 28 percent reported no income. However, 38 percent of families have incomes in the less than $500 per year category. Data do not reveal how many working family members were required to obtain even that amount. Apparently several per family were active or had sources of unearned income. Individuals earning $3,000 per year and above account for 7.8 percent of the working-age population, but 15.4 percent of families are in the same category. Obviously, there is substantial sharing of income on the Papago reservation since family income is somewhat higher in every category than individual income. All of the income reported was not earned, but included substantial transfer payments to produce the income levels shown in Table XLI.

Non-Money Income The IMRS attempted to determine the extent that barter is practiced by the Papago Indian. The question was asked of respondents: "Did you receive any non-money income last year?" In addition to suggested responses, respondents were able to indicate other sources. The amount and sources of non-money income are reported in Table XLII.

Some non-money was earned by nearly 10 percent of the Papago respondents. Even so, the vast majority of the population is required to seek a living from sources other than homegrown and consumed

TABLE XLII
NON-MONEY INCOME SOURCES

Source	Percent
Homegrown and consumed agricultural products	4.8
Homemade clothing	3.2
Goods exchanged for other goods	1.3
Other barter sources	0.5

N = 377

agricultural products because of the inadequacy of climate and water necessary for gardening or the raising of livestock. Homemade clothing is an endeavor of approximately 4 percent in supplementing individual income. Barter is not widespread, possibly because of a lack of different things to exchange.

Those who were able to generate additional income on a non-monetary basis did not succeed at all well. Table XLIII reports an estimate of the monetary equivalent of the non-money source as reported by respondents.

TABLE XLIII

MONETARY EQUIVALENT OF NON-MONEY INCOME

Income (Dollars)	Percent
0	92.0
1 - 499	7.3
500 - 999	0.3
1,000 or over	0.5
TOTAL	100.1*

N = 374

* Does not sum to 100 percent due to rounding.

Table XLIII reveals that 92 percent of respondents have not generated non-money income on the basis of activity reported in Table XLII. Less than 1 percent reported $1,000 or over on the basis of gardening, sewing, trading or other actions helpful in advancing economic well being. It can be asserted that overall economic welfare of the on-reservation Papago is poor relative to the general U. S. population. Median U. S. income in 1966 was $7,436.[5] Median Negro family income in 1967 was $4,939.[6] Median family income for the Papago can be estimated from Table XLI to fall within the $500-999 range with the probability that it is closer to $1,000 than to $500. And the smaller income must go for the support of more family members on the reservation than for the U. S. family in general.

Sources of Individual Income

To determine the sources of both earned and unearned income of individuals, the question was asked: "What were the sources of income received by you in the last twelve months?" Several suggested categories enabled the individual to respond on the basis of yes or no; Table XLIV illustrates the reported sources mentioned on that basis.

It can be observed that 28.6 percent of the working-age population reported "earnings from a trade" as a source of income. This category includes such trades as nurse, automobile mechanic, electrical repairman, and carpenter. In addition, it includes unskilled work performed at hourly wage rates. The total category represents by far the most important source of income for the reservation residents.

TABLE XLIV
SOURCES OF INDIVIDUAL INCOME

Source	Percent
Gifts from children, relatives, or churches	2.7
Sale of handicrafts	13.9
Self-employed income (includes business, farm, trade or professional enterprise) individual or partnership	4.8
Earnings from a farm, ranch or other business	4.8
Earnings from a trade	28.6
Pensions	4.3
Assistance payments from Bureau of Indian Affairs	11.5
Assistance payments from other public or private sources	4.6
Interest or dividends on personal loans and investments	1.1
Income from royalties, leases, timber sales, annuities	2.7
Judgment or settlement funds	0.3
Sale of property	2.9
Veterans payments	1.3
Social Security	8.3
Unemployment insurance	0.0
None	26.7
Other	2.9

N = 374
* Does not sum to 100 percent because of multiple income sources.

The sale of handicrafts is also an important activity for the Papago. Basket weaving is the primary source of all handicraft work undertaken. Nearly 14 percent of the population receives income from this ancient art. Next in importance is the Bureau of Indian

Affairs with 11.5 percent reporting income from this source. Social Security ranked fourth in importance; the reason for this is obvious since the manpower resource study includes persons over 62 years of age. At age 62 some individuals may qualify for Social Security benefits. It is recognized that aid to dependent children is also a factor. Almost 10 percent of the respondents earned income from some form of self-employment. The self-employed sources were broken into two categories (farm and nonfarm), but the distinction between them was sufficient to eliminate any possible duplication in responses.

It is important to observe that unemployment compensation is relatively unimportant for the Papago. This may partly reflect the inability of the population to find transportation to distant offices to apply for such payments, particularly on a regular weekly basis. Also, it may reflect the lack of knowledge regarding the procedure to qualify for benefits. What may be called for here is an effort to communicate the qualifications for such benefits.

Especially revealing is the large percentage of responses that no income had been received in the previous year. More than one-fourth of the working-age respondents reported they had received no income in 1967. It is expected that the need for labor force participation by all family members is high if the level of family income is small relative to other families in surrounding areas.

The IMRS survey also observed the relative income contributions made by males and females. About 66 percent of the 194 females in the survey reported some source of income in the prior year. Many females reported more than one source of income. In total, there are 239 sources of income listed by the 129 females with income, for an average of 1.8 income sources per female with income. The percentage of males having at least one source of income is greater than for females. About 81 percent of the 187 males in the survey reported income from one or more sources. The relative accessibility of the sexes to income sources reflects the fact that the male labor force participation rate is more than twice that for women. The survey results suggest that while a higher proportion of men have at least one source of income, there are fewer income sources per male than there are for female. Females with income received income from 1.8 sources. The 152 males with income in the survey received income from 208 different sources for an average of 1.4 sources of income per male with income.

THOSE WITH NO INCOME

Of 99 Papago respondents reporting no income, 65 are women and 34 are men. A large percentage (71) of the women who reported no income listing keeping house as their primary activity during the year previous to the survey. Another 9.2 percent responded that they were unable to work.

The age distribution of females who reported no source of income is presented in Table XLV. The table indicates that there is a heavy concentration of women with no income in the 20-39 age group. This suggests that the women in that age bracket are concentrating on child rearing and depending on other members of the family for support.

TABLE XLV

AGE DISTRIBUTION OF FEMALES WITH NO INCOME

Age Group	Percent of Females with No Income	Percent of All Females in Age Group
16-19	7.7	7.7
20-29	20.0	16.0
30-39	30.8	27.3
40-49	16.9	19.1
50-59	16.9	15.0
60-69	4.6	8.3
70 and over	3.1	6.7
TOTAL	100.0	100.1*

N = 65

* Does not sum to 100 percent due to rounding.

Table XLV also reveals that the percentage of women 60 years of age or over who received no income is low when compared to the age distribution of all Papago women. The reason that very few older women reported that they had no income is clear. Half of the women 60 years or older who were interviewed responded that they had income from either pensions, assistance, or Social Security. Another 28.6 percent of the females in this age group had earned income. The low percentage of women with no income in the 60 and over group is indicative of the high proportion of those with no earned income that receive unearned income.

Of the Papago males that listed no sources of income, 29 percent listed going to school as their primary activity in the year previous to the survey. Table XLVI shows that the largest concentration of Papago males with no income is in the 16-19 age group. A large part of the "no sources of income" response can be attributed to youthfulness. Those males in the 16-19 age group have not yet entered the labor force and rely on other family members for their support. More than 20 percent of those males who had no income reported that they were unable to work during the year prior to the survey. The males who were unable to work must have relied on other family members for support.

TABLE XLVI

AGE DISTRIBUTION OF MALES WITH NO INCOME

Age Group	Percent of All Males with No Income	Percent of All Males in Age Group
16-19	28.6	12.3
20-29	14.3	16.6
30-39	11.4	18.7
40-49	11.4	12.3
50-59	20.0	16.6
60-69	11.4	12.3
70 and over	2.9	11.2
TOTAL	100.0	100.0

N = 34

EARNINGS FROM A TRADE

The most frequently mentioned source of income was earnings from a trade, reported by 28.6 percent of the respondents. This income source includes earnings from both skilled and unskilled occupations. The percentage reporting income earned in connection with a trade is slightly below the Papago labor force participation rate of 30.3 percent. The labor force question confirms the reliability of the income question and vice versa. Those not in the labor force plus those who were usually unemployed constitute approximately 28 percent of the population.

Thirty-seven percent of men and 19 percent of women reported income from a trade as shown in Table XLVII. As expected, the 20-39 age group are most likely to have earnings from a trade. As Papagos get older their access to this type of earning decreases.

TABLE XLVII
DISTRIBUTION OF EARNINGS FROM A TRADE
(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	16.2	11.4
20-29	32.4	27.1
30-39	32.4	27.1
40-49	10.8	15.7
50-59	5.4	10.0
60-69	2.7	4.3
70 and over	0.0	4.3
TOTAL	99.9*	99.9*

N = 37 females; 70 males.
* Does not sum to 100 percent due to rounding.

SELF-EMPLOYMENT AND OWNERSHIP INCOME

The respondents to the questionnaire were asked if they had any income from self-employment activity, and if they had any income from ownership of a business. The distinction between these two types of income is essentially the distinction between income associated with work and income associated with the ownership of an economic asset. For example, a person could have a proprietary interest in a business and derive income from that business but take no part in the operation of the business. Such a person does not receive self-employed income but may receive income from the business. It is not clear whether respondents were able to make the distinction. Nearly 5 percent reported self-employment income and still another 5 percent reported income from the ownership of a business. Many people responded that they had one source of income but not the other. Almost all of the respondents listing these two sources of income were men. Only two women responded that they had self-employment income, and two women responded that they had income from the ownership of a business. It should be noted that women were asked to differentiate between these two types of income as well as income from the sale of handicrafts. The age distribution of men receiving income from these sources is presented in Table XLVIII. No one in the 16-19 age group has income from either of these sources, and the 50-59 age group had the highest percentage of any group.

TABLE XLVIII

SELF-EMPLOYMENT INCOME AND INCOME FROM OWNERSHIP

Age Group	Distribution of Males with Earnings from Ownership	Distribution of Males with Self-employment Income
16-19	0.0	0.0
20-29	13.3	18.8
30-39	26.7	6.3
40-49	6.7	6.3
50-59	26.7	43.8
60-69	6.7	12.5
70 and over	20.3	12.5
TOTAL	100.4*	100.2*

N = 15 ownership; 16 self-employment.

* Does not sum to 100 percent due to rounding.

INCOME FROM HANDICRAFTS

Handicrafts appear to be an important source of income on the Papago reservation. Basket making is the major handicraft. Approximately 14 percent of respondents listed handicrafts as a source of income, making it the second most frequently mentioned source of income. Of those who listed this source of income, 92.3 percent were

TABLE XLIX

DISTRIBUTION OF INCOME FROM HANDICRAFTS

(By sex and age)

Age Group	Percent Females	Percent Males
16-19	2.1	50.0
20-29	6.3	0.0
30-39	27.1	0.0
40-49	35.4	0.0
50-59	18.8	25.0
60-69	6.3	25.0
70 and over	4.2	0.0
TOTAL	100.2*	100.0

N = 48 females; 4 males.

* Does not sum to 100 percent due to rounding.

women. As indicated in Table XLIX, these women are not in the younger age groups. More than half of the women engaged in this activity are fifty years of age or older. This is an important source of income to Papago women with 37 percent of all those reporting income listing this as a source.

ASSISTANCE PAYMENTS

The third most frequently mentioned source of income was assistance payments. The Bureau of Indian Affairs provides some assistance to Papagos in need. The assistance may have been in the form of money or goods. Other sources of assistance to the Papagos are the State of Arizona Aid to Dependent Children and other forms of welfare payments. Assistance from sources other than the BIA was provided to about 5 percent of the survey population.

Ten percent of respondents reported assistance income from the BIA. As indicated in Table L and LI, assistance payments to men were directed primarily to the 40 and over age group. More than 93 percent of BIA assistance was given to this group. No man under 40 years of age responded that he had income from public sources or private sources other than the BIA. Women receiving unearned income were dispersed over all age groups. This reflects the broader range of circumstances that place women in a position necessitating assistance payments.

TABLE L

DISTRIBUTION OF INCOME FROM BIA ASSISTANCE

(By sex and age)

Age Group	Percent of Females	Percent of Males
16-19	4.4	0.0
20-29	0.0	6.7
30-39	21.7	0.0
40-49	30.4	13.3
50-59	17.4	40.0
60-69	8.7	13.3
70 and over	17.4	26.7
TOTAL	100.0	100.0

N = 23 females; 15 males.

TABLE LI
DISTRIBUTION OF INCOME FROM PUBLIC
AND PRIVATE SOURCES OTHER THAN BIA
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	0.0	0.0
20-29	9.1	0.0
30-39	18.2	0.0
40-49	18.2	20.0
50-59	36.4	20.0
60-69	9.1	40.0
70 and over	9.1	20.0
TOTAL	100.1*	100.0

N = 11 females; 5 males.

* Does not sum to 100 percent due to rounding.

INCOME FROM SOCIAL SECURITY

Social Security is an important source of income to the Papagos. Of the families in the survey, 8.3 percent responded that they had income from this source. The age and sex charactertistics of Papagos receiving Social Security are shown in Table LII. Male recipients are

TABLE LII
DISTRIBUTION OF INCOME FROM SOCIAL SECURITY
(By sex and age)

Age Group	Percent Females	Percent Males
16-19	13.3	0.0
20-29	0.0	6.3
30-39	13.3	0.0
40-49	26.7	6.3
50-59	13.3	6.3
60-69	20.0	50.0
70 and over	13.3	31.3
TOTAL	99.9*	100.2*

N = 15 females; 16 males.

* Does not sum to 100 percent due to rounding.

concentrated in the 60 years of age and over group. This suggests that payments to males are primarily related to retirement. Female recipients are not concentrated in any single age group suggesting that the reason for payments to females is other than retirement.

A very small portion of Papagos 60 years of age or older receive Social Security payments. Only 24.7 percent of the people in this age group receive such payments. Table LIII reports the frequency of payments in other age groups. A greater percentage of the 60 years and older male Papagos receive Social Security payments than do females in the same age group.

TABLE LIII

PERCENTAGE OF PAPAGOS RECEIVING SOCIAL SECURITY PAYMENTS

Age Group	Percent Females in Each Age Group	Percent Males in Each Age Group
All age groups	7.7	8.6
60 and over	17.2	29.5
60-69	18.8	34.8
70 and over	15.4	23.8

N = 15 females; 16 males.

Veterans Payments and Pensions

The survey revealed that 4.3 percent of Papagos received pensions and another 1.3 percent received veteran benefits. Of Papagos receiving veterans benefits, most were women. All of the females receiving benefits were under 50 years of age. Benefits received probably coincide with husbands making careers in the armed forces. Of the sixteen Papagos receiving pensions, five were women. Four of these five women were less than 40 years of age. These age distributions suggest that most pensions made to women are related to the death or disability of the spouse. Of the eleven men receiving pensions, only two were less than 60 years of age. Pension payments to men appear to be closely related to retirement.

Unemployment Insurance

Not one Papago listed unemployment insurance as a source of income. This is surprising since Papago unemployment rates are approximately three times the national and state averages. This partly reflects the occupational and industrial distribution of Papago employment. The heavy concentration of Papago employment in agricultural and service industries contributes to the low proportion of the total employment being covered by the unemployment insurance system. It may also be possible that the remoteness of the Papago reservation discourages unemployment insurance claim filing. In any case, the fact that not one person in a sample of 374 Papagos received unemployment insurance, is indicative of the extent to which the Papagos are nonparticipants in the mainstream of U. S. economic life.

OTHER SOURCES OF INCOME

Six additional income categories were available on the Indian Manpower Resource Study questionnaire. Income from the sale of property accrued to eleven Papagos or about 3 percent of the working-age population. None of those that received this type of income were less than 30 years of age, reflecting the low asset base of the young in the Papago community. Ten Papagos or 3 percent of respondents received income from royalties, leases, timber sales, or annuities. Of these income recipients, eight are women. By and large, the young people also appear to be excluded from this type of income. Only one person under 40 years of age received income from these sources.

Income in the form of gifts from children, relatives, or churches was reported by 3 percent of the Papago working-age population. The recipients were divided equally between males and females. While there does not appear to be any systematic relationship between age and female access to this source of income, there is a concentration of male recipients in the under 30 age group.

In addition to the above categories, one woman reported income from a settlement or judgment. Two men and two women reported income from interest or dividends. Eleven Papagos reported that they had income from sources other than those listed in the questionnaire.

MOST FREQUENTLY MENTIONED SOURCES

One indication of the importance of an income source to a particular age group is the frequency with which the age group mentions the income source. The most frequently mentioned income source for female age groups is presented in Table LIV. Earnings from a trade constitutes the most important source of income to the younger female

TABLE LIV
MOST FREQUENTLY MENTIONED INCOME SOURCE OF FEMALES
(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Females in Age Group Receiving Source*
16-19	Earnings from a trade	40.0
20-29	Earnings from a trade	38.7
30-39	Sale of handicrafts	24.5
	Earnings from a trade	24.5
40-49	Sale of handicrafts	46.0
50-59	Sale of handicrafts	31.0
60 and over	BIA assistance payments	20.7
	Social Security benefits	17.2
	Sale of handicrafts	17.2

* Does not sum to 100 percent due to multiple responses.

age groups. The Papago females in the middle age groups most frequently mentioned handicrafts as a source of income. The 60 years of age and over group has several important income sources. In addition to handicrafts, assistance payments and Social Security are most frequently mentioned.

Earnings from a trade is an important source of income for Papago male age groups. This is consistent with the relatively greater male

TABLE LV
MOST FREQUENTLY MENTIONED INCOME SOURCE OF MALES
(By age)

Age Group	Most Frquently Mentioned Income Source	Percent of Males in Age Group Receiving Source*
16-19	Earnings from a trade	34.8
20-29	Earnings from a trade	61.3
30-30	Earnings from a trade	54.3
40-49	Earnings from a trade	47.8
50-59	Self-employed income	18.9
	Earnings from a trade	18.9
	BIA assistance payments	16.2
60 and over	Social Security benefits	29.6
	Earnings from a trade	20.5

* Does not sum to 100 percent due to multiple responses.

participation in the labor force. For the 16-49 age groups, earnings from a trade is mentioned far more frequently than any other source of income. As shown in Table LV, self-employed income is frequently mentioned, as are assistance payments, by the 50-59 age group. Social Security is the most frequently mentioned source for the 60 and over group.

SUMMARY OF INCOME SOURCES

Earnings from a trade appear to be the most important source of income to the Papagos. The older the population group, the less it relies on earnings from a trade. Handicraft income becomes an important source of income to women. In addition, females receive a large percentage of the assistance, pensions, and Social Security. These sources are important to each of the female age groups. Papago females do not have substantial earnings from businesses.

Male Papagos rely more on earnings from a trade than do female Papagos. Males generally have fewer sources of income. Males in the middle age groups receive substantial income from the operation or ownership of businesses. Assistance payments and Social Security are not important sources of income except to the older age groups.

INCOME BY EDUCATION AND SEX

Not only is it important to report information on occupation, labor force participation, sources of income, and family characteristics, but it is also important to break down income data on the basis of education and sex. Among other reasons for their importance, such data provide insights into motivations to obtain education for job purposes. The receipt of income by sex and educational attainment is reported in Table LVI. Reporting is on the basis of 187 male and 194 female responses.

It is clear that higher educational attainment has had some effect on the ability of a few to command a higher level of income, but the effect is not widespread. The most obvious aspect of Table LVI is that about 81 percent of males and 91 percent of females were included in income categories of less than $3,000 per year. Men receiving no income account for 18 percent of all males. With few exceptions, males without income ranged from no formal education through high

TABLE LVI

INCOME BY EDUCATION AND SEX

(Percent)

		Income									
Education	Sex	$ 0	1-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 +	Info. Not Avail.	TOTAL
None	M	1.1	2.7	1.1	0.0	0.5	0.0	0.0	0.0	0.5	5.9
	F	0.5	4.1	2.1	0.5	0.5	0.0	0.0	0.0	1.6	9.3
1	M	2.1	4.3	2.1	0.5	0.0	0.0	0.0	0.0	1.1	10.1
	F	1.5	3.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	6.6
2	M	0.5	1.6	2.1	0.5	0.0	0.0	0.0	0.0	0.0	4.7
	F	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0
3	M	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	F	1.0	3.6	0.5	0.5	0.0	0.0	0.0	0.0	0.5	6.1
4	M	0.5	2.7	1.6	0.5	1.6	0.0	0.0	0.0	0.0	6.9
	F	0.5	1.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	3.5
5	M	1.1	0.5	1.1	0.5	0.0	0.5	0.0	0.0	0.0	3.7
	F	2.6	3.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	7.8
6	M	0.0	0.5	1.1	1.1	0.5	0.0	0.5	0.0	0.0	3.7
	F	1.0	2.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	4.6
7	M	1.1	2.7	1.1	0.5	0.0	1.1	0.0	0.0	0.0	6.5
	F	6.2	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	8.2
8	M	2.1	2.1	1.1	1.1	0.0	0.5	0.5	0.0	1.6	9.0
	F	5.7	2.1	2.1	0.0	0.0	0.0	0.5	0.0	1.6	12.0
9	M	4.3	1.6	3.2	1.1	0.0	1.1	0.5	0.0	1.1	12.9
	F	4.1	2.6	1.0	0.5	0.0	0.0	0.0	0.0	0.0	8.2
10	M	2.1	2.2	0.5	0.0	0.5	0.5	0.5	0.0	0.5	6.8
	F	2.6	2.6	1.0	1.0	0.0	0.0	0.0	0.0	0.5	7.7
11	M	0.0	2.7	1.6	0.5	0.0	0.0	0.5	0.0	0.0	5.3
	F	1.5	1.0	0.0	0.5	1.0	0.5	0.0	0.0	0.0	4.5
12	M	1.1	3.2	1.6	2.1	1.1	2.7	2.7	0.0	1.1	15.6
	F	3.1	1.5	1.5	3.1	0.0	0.0	0.5	0.0	1.0	10.7
13	M	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	1.0
	F	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	1.0
14	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	1.0
15	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Info. not available	M	2.1	1.1	0.5	0.0	0.0	0.0	0.0	0.5	1.1	5.3
	F	1.5	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.5	5.0
TOTAL	M	18.1	29.5	19.8	8.9	4.2	6.4	5.2	0.5	7.0	99.6*
	F	33.3	31.8	13.3	9.1	3.0	0.5	2.0	0.0	6.2	99.2*

N = 187 males; 194 females.

* Does not sum to 100 percent due to rounding.

school graduates. The greatest concentration of men by education in the no income category is in grades eight through ten.

Women do not fare as well as do men as shown by the fact that a much higher percentage (33.3) were without income. The greatest concentration of women by education is between grade levels seven and nine. However, those with high school educations were also well represented in the no income category (3.1 percent).

Approximately 5 percent of males are high school graduates with incomes of $3,000-9,999 annually as compared to less than 1 percent of women. It is clear that an individual income of over $2,000 per year is not common on the Papago Reservation, irrespective of the level of education completed. It appears that men with high school educations do much better than others, and this may largely reflect greater aggressiveness on their part in seeking jobs on a continuous basis. The superior performance of men over women with diplomas either reflects the lack of opportunities available to females or their concentration on family duties.

Observe that females with some post high school training fare better than men in that 0.5 percent of women were able to break into the $5,000-9,999 income category. A second year of college was completed only by women. Less than 1 percent received income in the $500-999 category, and the same percentage reported themselves in the $5,000-9,999 bracket.

It is possible that the on-reservation Papago has had little incentive to complete high school, much less to seek a college degree. Very few individuals earn over $2,000 per year, but when they do, the opportunities seem to be open most often to those with the greatest amount of formal training. As a generalization, however, the data appear to support the remark that they all fare about equally as poorly in terms of income. In addition, it seems likely that no matter what training is provided, it will come to little as long as the individual remains on the reservation. It should be recognized that thousands of tribal kinsmen have not remained, but have, probably because of economic necessity, moved to both distant and near places. In the short run, individual income can only be improved by leaving the reservation.

CONSUMPTION PATTERNS

The source and extent of income are important factors in explaining manpower utilization on Indian reservations. Such data provide insights into incentives (or the lack of them) to obtain higher levels of education in preparation for work competition. At the same time, insights into possible avenues for training Indians to operate on-reservation businesses can be gained by analyzing how income is spent by income category of families, on what it is spent, and where it is spent. Furthermore, expenditures provide information regarding family access to transportation. This latter aspect is important in that it partially reveals the ability of Indians to commute to off-reservation sources of employment.

Information about these factors was obtained by asking respondents separate questions regarding where their families usually purchased groceries, automobile repairs, and clothing. It was of interest to learn if they usually purchased each category of goods on or off the reservation, part on and part off, or no purchases of particular goods at all.

PURCHASE OF GOODS AND SERVICES

Table LVII reveals the places where Papago Indians usually purchase various goods and services.

Groceries are usually purchased off the reservation by most Indians. Nearly 44 percent of families obtain essential food items from stores located in areas located off the reservation. However, approximately 19 percent spread their grocery dollars about equally between trading posts on the tribal lands and merchants located off the reser-

TABLE LVII

WHERE GOODS AND SERVICES ARE PURCHASED BY FAMILIES

(Percent)

	Item		
Place	Groceries	Automobile Repairs	Clothing
On-reservation	36.5	5.3	25.3
Off-reservation	43.7	23.7	58.6
Half and half	18.8	6.6	15.0
Do not know	0.9	0.8	1.1
None		63.7	
TOTAL	99.9*	100.1*	100.0

N = groceries 377; automobile repairs 380; clothing 379.

* Does not sum to 100 percent due to rounding.

vation. More than one-third of families usually patronize on-reservation stores for their grocery needs. Less than 1 percent did not know the source of their family food supply.

The vast physical size of the reservation largely accounts for the magnitude of responses indicating off-reservation sources for grocery buying. It may well be that stores in nearby towns are as near as stores located on tribal property. Some Indians are undoubtedly closer to off-reservation sources than to those on tribal land. In addition, some Indians commute to jobs located off the reservation, and it may be more convenient to patronize stores near their work places than to return to their homes and then travel to distant reservation stores. Alternatively, travel to food markets off the reservation may just be the result of a weekly, bimonthly, or monthly endeavor to get away for a short time.

The purchase of automobile repair services is made predominantly off-reservation. On-reservation sources account for approximately 9 percent as proved by the fact that 5.3 percent usually buy all their repair needs from sources on tribal land and 6.6 percent are divided between on- and off-reservation sources. Nearly 24 percent usually purchased all repairs from outlets in areas adjacent to the reservation. About 1 percent of respondents did not know the pattern of family consumption in this expenditure category. As in the case of grocery shopping, the location of auto repair purchases may be indicative of where some families are located on tribal property rather than a deliberate attempt to utilize services other than those made available at on-reservation outlets.

Table LVII reveals also that the vast majority of Indians, 63.7 percent, do not purchase automobile repairs from any source. Some, of course, may provide their own needs out of sheer economic necessity. Generally, however, such a response in light of the low level of individual and family incomes, indicates the lack of automobile ownership among Papago Indians. Such a condition also indicates the inability to vigorously pursue work opportunities that might exist in neighboring areas. Even if jobs were obtained in areas away from home, many Indians would undoubtedly be dependent upon friends and neighbors to transport them back and forth to work even on a once per week or longer basis.

The lack of available private transportation may also have the effect of considerably decreasing knowledge about work opportunities as they arise. It appears that it could be difficult to travel to branch offices of the State Employment Service even though an on-reservation office is available. However, it is also apparent that Papago Indians do find a means of traveling to off-reservation areas to purchase food and clothing. The indication is that considerable pooling of transporation exists among tribal members in the smaller reservation towns.

Clothing is more likely to be purchased off the reservation than any other consumer item. Approximately 59 percent identified nonreservation stores as their source of clothing purchase. Roughly 25 percent usually satisfied their clothing needs from trading posts on the tribal lands. However, 15 percent indicated they utilized both sources. The response to the clothing category indicates a possible lack of choice at trading posts. It may be that a variety of styles is available only in nearby nonreservation towns. On the other hand, the entire range of goods and services bought may be closely associated with the credit terms available to Indians at trading posts and off-reservation retail stores.

METHOD OF PAYMENT

It has often been asserted that Indians do not have freedom of choice regarding where they will purchase goods and services because of their credit needs. It is known that once credit is extended, particularly to families with very low incomes, the possibility of trading elsewhere is no longer a choice; in order to trade in another place,

TABLE LVIII
METHOD OF PAYING FOR FAMILY PURCHASES
(Percent)

Method of Payment	Item Groceries	 Automobile Repairs	 Clothing
Cash	55.0	67.4	68.4
Credit	43.4	21.1	29.0
Oil company credit card		3.4	
Do not know	1.6	8.2	2.6
TOTAL	100.0	100.1*	100.0

N = groceries 380; automobile repairs 147; clothing 380.
* Does not sum to 100 percent due to rounding.

they would have to refuse to honor credit obligations already incurred. Table LVIII provides insights into this difficult problem.

Obviously, credit arrangements are far more important in the purchase of groceries than any other category of goods and services. Roughly 43 percent of Papago families appear to depend on credit arrangements to obtain food. Fifty-five percent pay cash for groceries at the time of purchase; cash is more likely to be paid by Indians who usually buy from off-reservation stores than by those who buy from trading posts. Credit arrangements are probably more difficult to establish in stores located in adjacent communities. Support for such an assertion appears to be reflected in the automobile repairs and clothing categories. Cash transactions were reported by approximately 67 percent of those who buy auto repairs and 68 percent of those buying clothing. It will be recalled that items included in the latter categories were predominantly purchased from off-reservation outlets. Very few Papago families apply for or qualify for oil company credit cards. Only 3.4 percent of the total indicated access to this convenience. It is possible that on-reservation purchases are largely made by families in the lowest-income groups because of the greater need for credit and at the same time a greater inability to ob-

TABLE LIX

EXTENT OF CASH AND CREDIT USE BY INCOME LEVEL

(By percent of each income group)

	Item Purchased					
	Groceries		Automobile Repairs		Clothing	
Family Income	Cash	Credit	Cash	Credit	Cash	Credit
$ 0 - 499	56.6	43.4	60.5	39.5	63.8	36.2
500 - 999	56.3	43.8	93.8	6.3	71.4	28.6
1,000 - 1,999	46.3	53.7	66.7	33.3	71.7	28.3
2,000-2,999	43.3	56.7	66.7	33.3	83.3	16.7
3,000 - 4,999	66.7	33.3	77.3	22.7	76.7	23.3
5,000 - 9,999	80.0	20.0	77.8	22.2	70.0	30.0
10,000 and over	75.0	25.0	100.0	0.0	100.0	0.0
Info. not avail.	50.0	50.0	81.8	18.2	67.9	32.1

N = groceries 374; auto repairs 135; clothing 370.

Note: Summation is horizontally by good or service in each income category.

tain it elsewhere. For this reason, we now turn to an analysis of cash and credit payments by family income group.

Method of Payment by Family Income Level

Table LIX provides insights into the nature of cash and credit purchases by family income level. Individuals reporting family incomes of less than $500 per year and between $500 and $999 paid cash for roughly 56 percent of their total grocery expenditures. Both groups were able to obtain credit for the remainder of their food store expenditures. It is possible that the low-income groups in question utilize credit to the fullest extent permitted and are then forced to offer cash for purchases beyond any credit limits imposed.

Groceries. Individuals in families receiving between $1,000 and $2,999 annually purchased over one-half of their grocery items on a credit basis. Once again the extent of credit available may possibly be the result of their particular income levels. Greater credit opportunities are probably provided the higher-income groups as opposed to low-income groups with less ability to repay.

Income groups receiving from $3,000 to 9,999 per year provide their grocery needs more on a cash basis than those who receive lower amounts. Eighty percent of groceries purchased by those in the $5,000-9,999 category are by cash. Nearly 67 percent are by cash in the $3,000-4,999 income category. The record of the two groups just mentioned might indicate a lesser need for credit than is the case of lower-income families. However, those families earning $10,000 per year or more do not pay cash for as much of their total grocery purchases as families in the $5,000-9,999 category. Families in the highest-income group may continue to use credit because of habit or in some cases it could be need for a short period. Some may be paid on a monthly or bimonthly basis, which might cause such families to seek credit near the end of each pay interval. Alternatively, it may well be that it is simply more convenient to pay a grocery bill periodically because several family members purchase groceries on a daily basis.

It is demonstrated, however, that greater need for grocery credit is by families in income groups of less than $3,000 per year. Less need for credit is generally portrayed by those earning above $3,000 per year, with the exception of the $10,000 plus category.

Automobile Repairs. Automobile repair purchases on a cash basis generally increase with income. Individuals reporting family incomes of $10,000 per year or above declared that all their repairs are paid for at the time services are rendered. Families in the two categories between $3,000-9,999 reveal about equal need for credit (about 22 percent of purchases) to repair their automobiles. Credit need reported by the two groups comprising incomes between $1,000-2,999 was also about equal; each obtained approximately one-third of automobile repairs on credit.

The group with less than $500 annual income demonstrates a greater credit need than any other category; this group requires credit for 40 percent of repairs. The group reporting incomes between $500-999, however, breaks the pattern demonstrated by the other categories. The data indicated that nearly 94 percent of automobile repairs are on a cash basis. This category is inconsistent with the apparent pattern established by all the other groups. Despite the inconsistency observed in the one group of responses, it appears that automobile repairs are obtained largely on a cash basis. The cash requirement demonstrated may partially explain the lack of available transportation on the Papago Reservation. For example, it has already been demonstrated that 60 percent of families subsist on cash incomes of $1,000 per year or less. Automobile repairs are costly in any case, but probably more so for low-income families because of the frequency. The greater frequency for repair needs is based on the assumption that they buy older models from the start. Once major repair problems arise, these groups may be forced to leave their cars idle for substantial periods until the necessary funds for repair become available. In the meantime, such a situation would decrease their ability to either commute to jobs or to seek them in the first place.

Clothing. The purchase of clothing on a cash rather than credit basis is more pronounced than any other consumer item considered in the study. The $10,000 and over group reported all their clothing purchases were by cash. The $2,000-2,999 group was next in cash outlays for clothing, about 83 percent. Cash expenditures were lowest in families with less than $500 annual incomes.

Credit is utilized in providing clothing in various degrees by all income groups with the exception of the $10,000 and over category. The same result is observed with regard to automobile repairs. Greater freedom of choice in selecting retail outlets for consumer purchases is available to the upper-income groups in that less credit is needed. The lower-income groups may have greater need to patronize outlets on a regular basis in order to preserve their credit status.

TABLE LX

METHOD AND EXTENT OF PAYMENT BY FAMILY INCOME LEVEL
GROCERIES, AUTO REPAIRS, AND CLOTHING
(Percent)

	Method of Payment											
	Cash						Credit					
	Percent of Total Purchasing Item			Percent of Total Paying Cash			Percent of Total Purchasing Item			Percent of Total Using Credit		
Family Income	(1)Gro.	(2)Auto	(3)Cloth.	(4)Gro.	(5)Auto	(6)Cloth.	(1)Gro.	(2)Auto	(3)Cloth.	(7)Gro.	(8)Auto	(9)Cloth.
$ 0 - 499	19.6	17.0	21.9	35.1	23.2	31.3	15.0	11.1	12.5	33.9	41.7	41.8
500 - 999	12.1	11.1	14.9	21.6	15.2	21.2	9.4	0.7	6.0	21.2	2.8	20.0
1,000 - 1,999	6.7	7.4	10.3	12.0	10.1	14.7	7.8	3.7	4.1	17.6	13.9	13.6
2,000 - 2,999	3.5	5.9	6.8	6.3	8.1	9.7	4.6	3.0	1.4	10.3	11.1	4.5
3,000 - 4,999	5.4	12.6	6.2	9.6	17.2	8.9	2.7	3.7	1.9	6.1	13.9	6.4
5,000 - 9,999	4.3	10.4	3.8	7.7	14.1	5.4	1.1	3.0	1.6	2.4	11.1	5.5
10,000 or more	0.8	2.2	1.1	1.4	3.0	1.5	0.3	0.0	0.0	0.6	0.0	0.0
Info. not avail.	3.5	6.7	5.2	6.3	9.1	7.3	3.5	1.5	2.4	7.9	5.5	8.2
TOTAL	55.9	73.3	70.2	100.0	100.0	100.0	44.4	26.7	29.9	100.0	100.0	100.0

N = (1) Groceries = 373
(4) Cash = 208
(7) Credit = 165

(2) Auto repairs = 135
(5) Cash = 99
(8) Credit = 36

(3) Clothing = 369
(6) Cash = 259
(9) Credit = 110

EXPENDITURE PATTERNS

Additional information regarding Papago family expenditures on groceries, automobile repairs, and clothing are provided in Table LX. These data both support and extend those contained in Table LIX.

First of all, it may be seen that over one-half of Papago families provide such grocery items as are purchased on a cash basis. Roughly 44 percent of families usually buy groceries on credit. Nearly 20 percent of all families purchasing groceries fall in the less than $500 per year income category, and they comprise 35 percent of all families usually purchasing groceries for cash. Alternatively, 15 percent of all families purchasing groceries are in the same income group, and almost 34 percent of family credit buying of groceries is attributed to individuals in this lowest family income category.

The very same pattern is established in the other consumer categories. There are greater proportions of all families in the low-income groups providing their needs on both a cash and credit basis. It appears that the lowest income group comprises the single most important reservation consumer group merely because of the vast number of families falling in that category.

The data also reveal that the majority of families supply their needs for automobile repairs and for clothing through the use of cash. The percentage of all families purchasing automobile repairs on a cash basis decreases as income increases until the range of income is in the $3,000-4,999 category. At this point, the percentage of total families rises relative to all other groups except the $0-499 group. The $5,000-9,999 income category also accounts for more of all families that purchase repairs for cash than the over $10,000 group and the two groups with income reported between $1,000 and $2,999. Again, this is partially attributable to the greater range of income within the category. It is also attributable to the greater ability to provide cash outlays.

Cash outlays for clothing purchases reveal the importance of families by income categories in both the total of all families and their percent of the total paying cash.

On the credit use side, it is seen that the percent of the total using credit for grocery purchases is related to the size of income. Credit is more important to lower income families than those in the higher levels.

The same is not true in the purchase of automobile repairs. Credit need appears approximately equal for families in income categories ranging from $1,000-9,999. As usual, greater need is found among those earning less than $500 per year. Approximately one-fourth of all families need credit to purchase automobile repairs and slightly more need it to purchase clothing. The demand for credit is related to the importance of the item for subsistence; the order of importance is groceries, clothing, and then automobile repairs.

NOTES

[1] Office of Projects Development, *Provisional Overall Economic Development Plan, Papago Reservation, 1962*, Bureau of Indian Affairs, Phoenix Area Office, 1962, p. 7.

[2] *Ibid.*, p. 11.

[3] Military personnel were excluded from the survey. Thus the term labor force really applies to the civilian labor force.

[4] *Economic Report of the President* (Washington: U. S. Government Printing Office, 1968), p. 232.

[5] Ibid.

[6] U. S. Department of Labor, *Recent Trends in Social and Economic Conditions of Negroes in the United States*, BLS Report No. 347 (Washington: U. S. Government Printing Office, 1968).

Chapter 7

Conclusions

The sampling method used was proved accurate with regard to the overall manpower characteristics of each of the five reservations. However, the breakdown of data into specific categories occasionally left cell frequencies so low as to be only suggestive as to result.

Data generated through the IMRS survey indicate that Indians of the Southwest have substantially lower incomes than other Americans. Indian families receiving less than $3,000 annually vary in magnitude by reservation from a low of 51 percent among Acomas to a high of 85 percent among Papagos. It has been pointed out throughout the study that the poverty floor for a family of four can be conservatively set at $3,335. This definition normally applies to city dwellers with obligations to pay for such items as rent and medical care. Farm families require somewhat less than do city families with the poverty floor defined at roughly $2,500 for a family of four persons.[1] Although most reservation Indian families live in a rural setting, they should not be considered farm families. Relatively little agricultural activity is characteristic of the reservations studied; supplements to income through food raised for home consumption do not seem extensive. However, despite the lack of agricultural activity, many services are provided Indians that are not readily available to city dwellers. One example is medical services. Even so, a considerable percentage of Indian families live in poverty conditions since the median family size is six on the Papago, Acoma, and Laguna reservations and seven on the Fort Apache and San Carlos reservations. Poverty, therefore, exists whether the floor is defined at $2,500 for a family of four or at $3,335. Median income on the Acoma and Laguna Reservations is in the $2,000-2,999 category. Yet, 40 percent of Acoma and 38 percent of Laguna families receive less than $2,000 annually. Median income on the San Carlos Reservation is in the $1,000-1,999 category with 72 percent of all families receiving incomes under $3,000 per year. The Fort Apache and Papago Reservations reported median family incomes in the $500-999 range. The data reveal that about 85 percent of Papago families and 72 percent of San Carlos families receive under $3,000 annually.

Despite the greater number of jobs on the Fort Apache Reservation, the isolation and alienation of the Apaches from the general labor market does not result in a promising picture of present or future overall economic well-being. Family income sharing is a feature present on all the reservations studied. It may well be that the greater the accessibility to sources of income among family members, the more difficult it will become to entice Indians away from their reservations to work in an unsheltered general labor market. Incentives to compete for scarce jobs off the reservation, like successes in efforts to move coal miners or many ghetto dwellers, diminish as family incomes increase. Like other peoples, the Indian is more comfortable in his traditional environment, and economic incentives to enter and remain in an unsheltered labor market depend upon family assets adding a variable to individual utility maximization that differs somewhat from the general populaton.

The federal government has had a long relationship with Indians, generally in the form of property guardianship. Various measures have been undertaken to prevent land alienation and abuse by holding it in trust. The use of Indian land requires federal approval in accordance with Congressional provisions. The 1934 Indian Reorganization Act extended Indians the right to self-government through tribal councils. It also made it possible for tribes to enter into business arrangements with non-Indians, subject to Bureau of Indian Affairs surveillance. Considerable expectations developed among some government officials regarding improved Indian well-being through economic assimilation brought about through self-help. The vision of bringing about extensive economic development on tribal land has not been realized. The lack of success in attracting businesses to reservations is reflected in the industry and occupational experiences of the past five years. Federal and tribal government employment continues to be the most important source of income to the Indians studied. Occupations in which tribesmen work have been predominantly of a service type. Some experiences have been reported in non-government work, but these are not extensive. Work, such as has been available to Indians generally has been of a sheltered type. That is, Indians are extended preference when reservation jobs are filled. Indian employment in the BIA is permitted without adhering to the Civil Service requirements of usual federal employment. Despite the sheltered employment situation, considerable underemployment and unemployment persists on the five reservations. Most orientations have been toward periodic seasonal work; but, the number of these opportunities has generally been declining. Seasonal or irregular work characterizes a significant part of reservation labor ranging from 27 percent of the working-age Laguna population to 55 percent of the Fort Apaches over 16 years of age. In between the two extremes fall the Acoma with 38 percent; San Carlos at 48 percent; Papagos at 54 percent. Underemployment is extensive among the reservation people studied.

Indians do not want to leave their reservations to work if it can be avoided; however, this study supports the hypothesis that the creation of on-reservation opportunities would be met by a labor force willing to work. It is not entirely clear that the majority could adjust immediately to full-time employment, other than to the seasonal types to which they are accustomed. It is also possible that a labor force disciplined to the rigors of eight hours per day, five days per week would require some time to develop.

A new law enacted by the Congress in 1965, Public Works and Economic Development Act, was for the purpose of aiding communities, areas, and regions in the United States that are chronically impoverished. A range of possibilities is thus opened up to reservations qualifying for assistance under EDA provisions. Considerable effort has been made to attract industrial and other business enterprises to reservations. Various titles of the Act make it possible to obtain 100 percent financing for industrial sites established as nonprofit corporations with both reservation Indians and non-Indians of nearby communities on the boards of directors. Expansion operations of firms are the target of the reservations through these industrial site ventures.

Despite the subsidies available to business through EDA, making the nonprofit industrial development corporations appear attractive to businesses on the surface, there is every likelihood that the new ventures will not prove very successful. Most of the Indian industry work experiences other than government over the prior five years have been in operations engaged in exploiting reservation natural resources. On the Fort Apache Reservation, 20 percent of industry work experiences have been associated with exploiting available lumber resources. Lumbering is also important to the San Carlos Apaches with 3.6 percent of experiences so related. The Acoma Pueblos have considerable experience in mining as is also the situation with Lagunas; this is the result of the Anaconda uranium operations. The apparent lack of natural resources available for exploitation on the Papago Reservation is revealed in their lack of work in manufacturing and mining. The Lagunas work in an electronics plant on the reservation making them the most successful of the five tribes in attracting firms, which provide employment, to the reservation. The industrial park arrangement seems destined to failure unless related to natural resources availability on the reservations. The existence of a huge pool of unemployed and underemployed is little enticement to firms when most U. S. labor markets are generally characterized by a surplus of unskilled labor.

In addition, external economies may have to be foregone by firms locating on reservations. That is, location of firms outside an industrial complex requires a considerable range of services that a firm must provide for itself as opposed to dependence upon other businesses offering specialty services to a large market at relatively low cost. Additionally a firm's need to be located in an established industrial environment may be more pressing than the need to locate near markets or near sources of basic supplies.[2] Reservations do not currently provide an atmosphere that might be attractive to prospective firms. This factor seems particularly relevant when it is realized that many firms depend upon areas with adequate housing and other public facilities necessary to compete for non-Indian labor.

The fact that Indian labor is relatively abundant in unskilled categories, suggesting lower wage rates, may be irrelevant to many firms' decisions to locate plants in areas different from where they now exist. As mentioned, most unskilled labor markets are characterized by unemployed labor resources. Increasingly, modern industrial processes are performed by mechanized methods requiring relatively little labor. Even if manufacturing firms locate on reservations initially because of labor availability, wages should ultimately rise with economic development. This factor should lead to greater use of capital relative to labor as productive processes are changed. Labor intensive techniques of production do not appear to be a permanent feature of U. S. manufacturing. Manufacturing appears to be following the same cycle of employment change as agriculture.

Another factor that may be relevant when focus is placed on reservation development is the possible difficulty of obtaining satisfactory workmanship from Indian factory operatives. Indians do not have a history of work under factory discipline. Occupational experiences have been predominantly in the service categories. Generally, it can be asserted that isolation of Indian citizens from the world of manufacturing work does not lead to rapid acceptance of factory operations. The Laguna Indians may well be an exception to this generalization since they have had greater exposure to various types of work requiring considerable discipline. Alienation from such procedures, however, is likely to be the rule rather than the exception.

The various chapters also make it apparent that the Indian culture incurs obligations on the individual to take care of his family, relatives, and other tribal members. The prevalence of this situation is revealed in the difference between individual and family income on the five reservations. The two New Mexico tribes fare best in this regard with, for example, 40 percent of Laguna working-age individuals receiving less than $500 annually as compared to only 17 percent of families. In Arizona, 61 percent of Papago individuals receive under $500 annually with only 38 percent of families in the same category. It may be that the managerial function, if performed by Indians, would be relegated away from efficiency of operating in order to take care of friends and relatives. For example, it could become difficult for an Indian to discharge a relative because of lack of conformity to factory requirements. Some individuals may not consider it necessary to be on the job a standard workday or week. This factor seems particularly relevant since considerable past orientation has been directed toward seasonal and irregular employment. As such, absenteeism and turnover could drive up a firm's costs of operating to such an extent that some of the cost benefits provided through industrial park arrangements might be lost.

Job development through businesses of a nonmanufacturing variety are possible subject to problems other than those just mentioned. Reservations may be more successful in establishing business operations that are closely related to the natural and human resources already in existence. For example, the Fort Apache Reservation is making considerable investments in recreation and tourism facilities.

These undertakings, however, provide greater returns to capital than to labor since relatively little labor is required to operate such enterprises. In addition, labor such as is employed tends to be required more on a seasonal basis than year-round. Recreation and tourism enterprises do tend to take advantage of the relatively unskilled labor pool, which has experience in providing services to hotels, motels, and general stores selling trinkets, fishing and hunting supplies, and camping needs. Some experience and training can be provided the tribesmen in functions such as store managing, and as clerks. At the same time it should be recognized that reservation unemployment and underemployment indicate that resources, both natural and human, can be put to different or new uses with little or no sacrifice of current Indian output. Development of new jobs even if on a seasonal and irregular basis would lead to more efficient utilization of labor than currently exists.

Recreational and tourist facilities do not tend to interfere significantly with the basic Indian cultures of the five reservations. This type of development is in the infant stage. However, expansion of facilities attracting more people from off the reservations can have a significant impact in changing Indian social values over time.

At the same time, retail outlets can provide an important means for emphasizing production of arts and crafts. An effort to market baskets, beads, and pottery through Indian stores could provide greater on-reservation employment for Indians, even if only on a part-time and seasonal basis. Activity in the production and sale of Indian arts and handicrafts varies from a high of 14 percent of the working-age population so engaged on the Papago Reservation to a low of 5 percent of the people on both the Acoma and Laguna Reservations. Generally, the younger Indians do not participate widely in the production of these goods. Efforts to expand the production and marketing of arts and crafts could permit more members of families to participate in raising the general well-being of their group. It should be recognized, too, that tribal endeavors in recreation and tourism may place greater burdens of income distribution on Indian government since the majority of returns will be to capital as opposed to labor. However, successful business operations permitting the tribe to devise more extensive welfare measures of its own could give it greater control over the economic destinies of its people.

Considerable evidence was uncovered in the study that showed Indians on all five reservations are relatively mobile. Both on-and off-reservation Papagos have been estimated at 14,000 with approximately only 3,258 of working age on the reservation at the time the survey was taken. The same proportions were found with the other tribes. The Fort Apache and San Carlos Reservations, for example, considered to have the most stable on-reservation population, still revealed a discrepancy of about 25 percent between Indians found on the unedited lists and those actually available for interviews. The evidence seems to indicate that many Indians leave their reservations in search of employment. It may well be that they do not remain off tribal land for extended periods because of adjustment problems such as an unfamiliarity with requirements of modern economic life.

Regardless of problems that exist in attempts to adjust away from Indian cultures, efforts to develop reservation economies by way of huge capital subsidies are likely to meet with failure at least in the short run. If Indians are more comfortable with their tribal relatives, then job development on reservations is likely to encounter "unlimited supplies" of labor. That is, as jobs or even higher incomes are made available on the reservations and the off-reservation Indian learns of them, he may decide to return to compete for available scarce jobs. If such a situation should develop, then efforts to raise the general economic well-being of Indians may require greater subsidies than have ever been estimated. One estimate of total dollar requirements is one billion.[3] This amount may prove too little if Indians established in jobs off-reservations return to their tribal homes. At the very least, massive subsidy in Indian reservation development could serve to slow down trends in assimilating some Indians into the general economy.

The five reservations are characterized by relatively young working-age populations. Half or more of the various reservation Indians are under 40 years of age. Despite the prevalence of young Indians, they have not had strong labor force attachments. Compared to the overall U. S. labor force participation rate of 59.4 per 100 of population, Indian rates vary from the low Papago rate of 30.3 to the higher rate of 47.3 on the Laguna and Fort Apache reservations. The basic reason that Indians give for not seeking work is predominantly one of ill health and inability to leave the reservation to seek employment. The lack of education and experience to qualify for initial employment are also cited by Indians as basic causes for their lack of success in the past. Since they were unsuccessful on prior attempts to obtain jobs, many have given up hope and have resigned themselves to a life of relative inactivity on reservations.

It was not within the scope of this study to attempt to evaluate the health disability claims of respondents, but insights into the educational attainments of the working-age population were provided through the survey. Median educational attainments range from a low of seven years completed by Papago females to eleven years for Laguna men and women. The Acoma, San Carlos, and Fort Apache populations 16 and over have a median level of nine years. Indian educational attainments do not completely reflect their inability to compete successfully in an unsheltered labor market. The lack of English proficiency is another hindrance. Any efficiency gained while in school tends to decline through the constant use of Indian languages. Employers attempting to hire Indians may face a considerable language problem.

Lower educational attainments compared to the general U. S. population along with limitations in speaking English place Indians in unfavorable positions in competing for jobs. This unfavorable position becomes even worse as unemployment rates rise nationally and in the regions where Indians live.

A lack of available family transportation was revealed in the study. Low family incomes contribute to continued poverty and low labor force participation by depriving Indians of automobiles and trucks. Even if these vehicles are owned, it is probable that they are not maintained mechanically. Thus, Indians may have difficulties commuting from one part of their reservation to another to seek employment. Also, they are restricted in ability to drive to nearby towns or distant metropolitan areas where work might be available. Over 60 percent of Fort Apache and Papago families are either without or have limited access to transportation. Just under 60 percent of San Carlos families are isolated from lack of transportation. Only about one-fourth of Acoma and Laguna families are restricted in their travel.

The provision of education and skills training for Indians unwilling to leave the reservation may be questionable unless there is a reasonable expectation that jobs in the area of training offered might be forthcoming on the reservations. Waste may be the result not only in terms of time, effort, and expenditures involved in training, but possibly in terms of frustration and alienation of individuals trained if jobs are not the end result of their efforts. Such a situation could add to social instability.

It does not seem reasonable that the five reservations in the study can be treated as separate economies unattached and unaffected by general U.S. economic conditions. Special subsidies and protection may tend to prolong the inefficient use of Indian human resources. The lack of a national commitment to a policy of full employment combined with efforts to subsidize Indian economies may have the effect of building up huge inefficiencies in the use of U. S. resources, both capital and labor. A policy of separate Indian subsidy would also seem inconsistent with efforts elsewhere to assimilate Negro residents of Harlem and displaced coal miners of states such as West Virginia and Kentucky ultimately into productive unsubsidized employment.

Efforts to deal with the Indian appear somewhat more difficult because of the prevailing cultural gaps. Education and training for Indians with mobility for the individual as the objective seems to be the most logical path for a long-run human resource policy. Extensive public investment in education is called for along with efforts to provide skills training for jobs that may be open in distant states.

Investment in the human resource can be made in an efficient fashion. To do so would require a massive effort on the part of the national government to develop a workable method for transferring entire families to areas where jobs can be provided that correspond with the ability of individual Indians. No attempt should be made to move Indians off the reservations until they are able to compete for jobs on a par with other citizens. Current information on job vacancies and their locations must be combined with retraining efforts. In addition, resources should be made available to transport individuals and their families to new work areas, paying for transportation and living expenses during a period of adaptation to a new environment. Some agency should also be endowed with sufficient resources to either provide skills training in critical areas or to subcontract with firms or other organizations to do so. Such a program should include all U. S. citizens and not favor a particular group. With the Indian, as with some other citizens, an outreach program may be required to enlist them into particular programs such as basic adult education classes dealing with English as a second language, or classes teaching good buying and dietary practices. Such courses now exist for some other segments of the general U. S. population.

In brief, Indians may require more concentrated efforts to resolve employment problems than other disadvantaged U. S. citizens because of their relatively greater deprivation. At the same time, efforts made should be on several fronts. Natural and human resources development on reservations such as are economically practicable should be encouraged. Some industries may function very well on reservations when there is exploitation of natural resources. Industries can be developed in recreation and tourism where feasible. However, efforts should also be made to equip Indians with the necessary education and training to locate off their reservations to fill jobs in various categories. The pricing mechanism should result in an efficient allocation of human resources if the United States is committed to a continuous policy of full employment and if efforts are made to endow all citizens with education and skills in accordance with their natural abilities.

NOTES

[1] See *Recent Trends in Social and Economic Conditions of Negroes in the United States*, BLS Report No. 347, (Washington: U.S. Government Printing Office, 1968) p. 9.

[2] See Everett E. Hager, *The Economics of Development* (Homewood: Richard D. Irwin Inc., 1968), p. 96.

[3] William A. Brophy and Sophie D. Aberle, *The Indian: America's Unfinished Business* (Norman: University of Oklahoma Press, 1966), p. 106.

Appendix I

CONFIDENTIAL QUESTIONNAIRE

Indian Manpower Study

Conducted by

Bureau of Business and Economic Research
Arizona State University
1968

Conducted for

United States Employment Service
Arizona State Employment Service

Name ______________________

Address ______________________

Sex ______________________

Year of Birth ______________________

Code ______________________

Date interviewed ______________________

Interviewer ______________________

ASK ALL RESPONDENTS

1. What were you doing most of last year 8 ______
   1. Working
   2. With a job but not at work
   3. Looking for work
   4. Keeping house
   5. Going to school
   6. Unable to work
   7. Retired
   8. Other (specify) ______________________

2. How much did you work last year 9 ______
   1. 0 (go to "Questions for Those Not Usually Working")
   2. 1-3 months (go to "Questions for Workers")
   3. 4-6 months (go to "Questions for Workers")
   4. 7-9 months (go to "Questions for Workers")
   5. 10-12 months (go to "Questions for Workers")

QUESTIONS FOR WORKERS

3. How many hours a week do you usually work at all jobs 10 ______

1 1-14
2 15-29
3 30-34
4 35-39
5 40
6 41-48
7 49-59
8 60 or more

4. If respondent usually works less than 35 hours a week—What is the reason you usually work less than 35 hours a week 11-12 ______

01 Slack work
02 Material shortage
03 Plant or machine repair
06 Could find only part-time work
08 Labor dispute
09 Bad Weather
10 Own illness
12 Too busy with housework, school, business, personal, etc.
13 Did not want full-time work
14 Full-time work week under 35 hours
15 Other reason

5. Do you usually work 13 ______

1 year-round   2 Seasonal   3 Irregular

5a. If your work is seasonal, do you usually work in

Spring 1 yes O no 14 ______
Winter 1 yes O no 15 ______
Fall 1 yes O no 16 ______
Summer 1 yes O no 17 ______

6. What were you doing most of last *month* 18 ______

1 Working (including farming)
2 With a job but not working
3 Looking for work
4 Keeping house
5 Going to school
6 Unable to work
7 Retired
8 Other

7. Is your present (or usual) job located on your reservation 19 ______
1 yes 0 no

8. Where did you learn your present (or usual) job 20 ______
1 Taught by employer
2 Government training program
3 Armed services
4 Formal schooling
5 Other (specify) ______

QUESTIONS FOR THOSE NOT USUALLY WORKING

9. Have you looked for a job during the past year 21 ______
1 no (go to question 12)
yes
2 Full-time 3 Part-time 4 Both

10. If you have been looking for work, what have you been doing in order to find work

		Checked with		
1 yes	0 no	BIA	22	______
1 yes	0 no	State Employment Service	23	______
1 yes	0 no	Private employment service	24	______
1 yes	0 no	Employer directly	25	______
1 yes	0 no	Friends or relatives	26	______
1 yes	0 no	Placed or answered ads	27	______
1 yes	0 no	Other	28	______

11. Why do you think you have had difficulty in getting a job (Mark each reason given)

1 yes	0 no	No jobs available in line of work or areas	29	______
1 yes	0 no	Age—too young or too old	30	______
1 yes	0 no	Lack of necessary skills or experience	31	______
1 yes	0 no	Lack of necessary education or training	32	______
1 yes	0 no	Health problems, physical disability	33	______
1 yes	0 no	Personal problems—police record, bad debts	34	______
1 yes	0 no	Transportation	35	______
1 yes	0 no	Other	36	______
1 yes	0 no	Don't know	37	______

12. If you are not looking for work, what are the reasons you are not looking for work

1 yes	0 no	Believes no work is available	38	______
1 yes	0 no	Couldn't find work	39	______
1 yes	0 no	Lacks necessary schooling, training, skills or experience	40	______
1 yes	0 no	Employers think too young or too old	41	______
1 yes	0 no	Other personal handicap in finding a job	42	______
1 yes	0 no	Can't arrange for child care	43	______
1 yes	0 no	Family responsibilities	44	______
1 yes	0 no	In school or other training	45	______
1 yes	0 no	Ill health or physical disability	46	______
1 yes	0 no	Other	47	______
1 yes	0 no	Don't know	48	______

13. When did you last work at a regular full or part time job or business — 49 ________
  1 Within past 12 months
  2 1 up to 2 years ago
  3 2 up to 3 years ago
  4 3 up to 4 years ago
  5 4 up to 5 years ago
  6 5 or more years ago
  7 Never worked

14. Why did you leave that job — 50 ________
  1 Personal, family (including pregnancy) or school
  2 Health
  3 Retirement or old age
  4 Seasonal job completed
  5 Slack work or business conditions
  6 Temporary nonseasonal job completed
  7 Unsatisfactory work arrangements (hours, pay, etc.)
  8 Other

ASK ALL RESPONDENTS

15. Describe your present job or your last job (within 5 years)
________ Has not worked in 5 years (skip rest of section)

16. What is the name of your present or last employer

17. What kind of business or industry is this

17a. What kind of work were you doing

18. Does this job involve working
  1 In an office
  2 Inside but not in an office
  3 Outside
  4 Machinery (specify) ______________________________
  5 As a helper

SIC code 51-53 ________
DOT code 54-59 ________

19. What other types of employment have you had in the past five years

Employer	*Occupation*	*Code*	*Where learned**	
____________	____________	______	__________	60-63 ________
____________	____________	______	__________	64-67 ________
____________	____________	______	__________	68-71 ________

**Place of Learning*
  1 Employer
  2 Government training program
  3 Armed services
  4 Formal education
  5 Other

20. Have you been trained for any type of work not listed above 72 ________
1 no O yes (specify type of training and approximate date)

21. Do you hold a union card 73 ________
1 yes O no

22. Where does your family usually purchase groceries 74 ________
1 On the reservation 3 Half and half
2 Off the reservation 4 Don't know

22a. How does your family usually pay for groceries at the time of purchase
1 Cash 2 Credit 3 Don't know

23. Where does your family usually purchase automobile repairs
1 On the reservation 4 Don't know
2 Off the reservation 5 None
3 Half and half

Zone 77-78 ________
Subsample 79 ________
80 ________

23a. How does your family usually pay for automobile repairs 8 ________
1 Cash 2 Oil company credit card 3 Other credit
4 Don't know

24. Where does your family usually purchase clothing 9 ________
1 On the reservation 3 Half and half
2 Off the reservation 4 Don't know

24a. How does your family usually pay for clothing 10 ________
1 Cash 2 Credit 3 Don't know

25. Are you now enrolled in a school or training program 11 ________
1 yes (specify) ________________________
O no

26. What is the highest grade of school you have completed 12-13 ________

01	04	07	10	13	16
02	05	08	11	14	17 or more
03	06	09	12	15	

27. Do you have a high school diploma or a GED 14 ________
1 yes O no

28. Do you have any College degrees 15 ________
College degrees 1 yes (specify) ________
O no
Technical or vocational school certificates 16 ________
1 yes (specify) ________
O no

29. What language is spoken most frequently in your hame 17 ________

1 An Indian language 2 English 3 Other

30. Do you speak English 18 ________

1 yes 0 no

31. Do you read English 19 ________

1 yes 0 no

32. What is your marital status 20 ________

1 Married	3 Divorced	5 Never married
2 Widowed	4 Separated	

33. How many children have you 21 ________

1 One	4 Four	7 Seven
2 Two	5 Five	8 More than 7
3 Three	6 Six	9 None

34. What were the sources of income received by *you* in the last twelve months

1 yes 0 no Gifts from children or relatives or churches 22 ________
1 yes 0 no From sale of handicrafts .... 23 ________
1 yes 0 no Self-employed income (business, farm trade, or professional enterprise) individual or as a partner .... 24 ________
1 yes 0 no Earnings from the ownership of a farm or ranch, a craft shop or retail store, a fishing, tourist, or guide-service business .. 25 ________
1 yes 0 no Earnings from a trade (carpenter, well-driller, paving contractor, auto mechanic, barber, bookkeeper, ranch manager, dressmaker, nurse, etc.) .... 26 ________
1 yes 0 no Pension(s) (specify) ________________ 27 ________
1 yes 0 no Assistance payments from Bureau of Indian Affairs .... 28 ________
1 yes 0 no Assistance payments from other public or private sources .... 29 ________
1 yes 0 no Interest or dividends on personal loans and investments .... 30 ________
1 yes 0 no Money receipts from tribal or individual allottee sources (timber sales, leases, permits, royalties, annuity payments, dividend payments) .... 31 ________
1 yes 0 no Judgment or settlement funds .... 32 ________
1 yes 0 no Sale of property .... 33 ________
1 yes 0 no Veterans' payments .... 34 ________
1 yes 0 no Social Security benefits .... 35 ________
1 yes 0 no Unemployment insurance .... 36 ________
1 yes 0 no Other (specify) ________________ 37 ________
1 yes 0 no None .... 38 ________

35. What was *your* total money income in 1967 39 ________

1 $ 0
2 $ 1 - 499
3 $ 500 - 999
4 $1,000 - 1,999
5 $ 2,000 - 2,999
6 $ 3,000 - 4,999
7 $ 5,000 - 9,999
8 $10,000 and over

36. Did *you* receive any non-money income such as

1 yes	0 no	Homegrown and consumed agricultural products	40 ________
1 yes	0 no	Homemade clothing	41 ________
1 yes	0 no	Goods exchanged for other goods	42 ________
1 yes	0 no	Other	43 ________

37. What is the monetary equivalent of *your* additional income .... 44 ________

1 $ 0
2 $ 1 - 499
3 $ 500 - 999
4 $1,000 or over

38. What were the sources of income received by your *family* in the last twelve months

1 yes	0 no	Gifts from children or relatives or churches	45 ________
1 yes	0 no	From sale of handicrafts	46 ________
1 yes	0 no	Self-employed income (business, fa[illegible] trade, or professional enterprise) individual or as a partner	47 ________
1 yes	0 no	Earnings from the ownership of a farm or ranch, a craft shop or retail store, a fishing, tourist or guide-service business	48 ________
1 yes	0 no	Earnings from a trade (carpenter, well-driller, paving contractor, auto mechanic, barber, ranch manager, dressmaker, nurse, etc.)	49 ________
1 yes	0 no	Pension(s) (specify ________________	50 ________
1 yes	0 no	Assistance payments from Bureau of Indian Affairs	51 ________
1 yes	0 no	Assistance payments from other public or private sources	52 ________
1 yes	0 no	Interest or dividends on personal loans and investments	53 ________
1 yes	0 no	Money receipts from tribal or individual allottee sources (timber sales, leases, permits, royalties, annuity payments, dividend payments)	54 ________
1 yes	0 no	Judgment or settlement funds	55 ________
1 yes	0 no	Sale of property	56 ________
1 yes	0 no	Veterans' payments	57 ________
1 yes	0 no	Social Security benefits	58 ________
1 yes	0 no	Unemployment insurance	59 ________
1 yes	0 no	Other (specify) ________________	60 ________
1 yes	0 no	None	61 ________

39. What was the total monetary and non-monetary income of your *family* in 1967

1 $ 0 - 499
2 $ 500 - 999
3 $1,000 - 1,999
4 $2,000 - 2,999
5 $ 3,000 - 4,999
6 $ 5,000 - 9,999
7 $10,000 and over

Sex 1 M 0 F	63 ______
Year of birth	64-65 ______
Zone	77-78 ______
Subsample	79 ______
	80 ______

Appendix II

FOR INTERVIEWERS

You have been selected to help us test a questionnaire which should give us necessary information about your tribe. We need this information in order to plan and carry out programs that will benefit your tribe and all other Indians as well. Your respondents' names are given and the answers they give you will be kept confidential, being used only for the purpose of identifying the labor force on your reservation.

At first you will conduct a few interviews among each other using the questionnaire. Then we will talk with you and look over the completed questionnaires to see how we can make the questions clearer and easier to understand and answer. When we have done all we can to improve the questionnaire, we will then conduct the enumeration.

The enumerating you will do is very important because we need your help in developing the best way to get the information we need. Please follow the instructions as well as you can. Make notes of any problems or questions your respondents raise in filling out the questionnaire.

INSTRUCTIONS FOR COMPLETING THE MANPOWER SURVEY QUESTIONNAIRE

I. RECEIVING YOUR ASSIGNMENT

You will be given a packet of materials containing the following:

- Control Sheets
- Tribal Population Survey Forms
- Pencils
- A note pad
- A portfolio

During the training sessions, your supervisor will explain how the materials are to be used.

At the proper time during your training session, you will also be given a list of persons you are to interview and their addresses. Make certain that you know where the addresses are located. If you do not know, ask your supervisor to help you.

II. ARRANGING THE SEQUENCE OF YOUR CALLS

You should arrange your visits to your respondents in the most convenient way. If you plan the order of your visits in advance, your work will be easier. Follow the steps described in this section and see the sample sheet.

Take one of your Control Sheets. Fill in the heading. In the first column, write the name of the person you plan to visit first. The first person should be the respondent who lives closest to your home or office (whichever is your starting point). Write his (or her) address in the same box.

Then select a second respondent who lives nearest the first respondent. Write in the second name and address beside the number "2" in the first column.

Continue to arrange all your respondents in the same way and list them in the first column until you have listed 12 respondents. Continue, if necessary, on the second Control Sheet, with line number "1". Fill as many sheets as necessary.

Place your Control Sheets in order. In the space provided in the upper right hand corner of the first Control Sheet, write "1" in the first space, and the total number of sheets in the second space. For example, if you are assigned 22 respondents, you will need 2 Control Sheets. The first Control Sheet will be numbered "Page *1* of 2 pages." The second Control Sheet will be numbered "Page 2 of 2 pages."

III. USING YOUR CONTROL SHEETS

Your Control Sheets are to be used mostly to keep track of your interviews. In some cases, you may not find your respondents at home the first time you call. Several return visits may be needed before finding your respondents. Your visits are to be recorded in the columns provided on your Control Sheet.

A. *If you find your respondent at home* the first time you call, write the date (for example, 3/27) in the first column beside the respondent's name, and place a check beside the date.

B. *If the respondent is not at home* the first time you call, write the date and time (for example, 3/27, 9 AM) in the first column beside the respondent's name. If any one else is at home, inquire when the respondent is expected to return. If no one else is at home, ask neighbors if they know when the respondent may be at home. If a time is given to you, enter that time on the same line as the respondent's name in the column headed "Comments." For example, write "After 7 PM" if someone tells you that the respondent is usually home then.

C. *The second time you call* on the respondent, write the date in the second column beside the respondent's name if he is at home. If he is not at home, continue the procedure outlined in Item III. B, above. Try to make second or third calls at different times of the day or evening, especially at times some one tells you the respondent may be at home. Make no more than 3 separate calls. When you have made 3 calls without locating the respondent, write the following in the "Comments" column: "Referred for close out." Your supervisor will handle close out cases. Your responsibility for a case is over when you have referred it for close out.

D. If you are told that the respondent no longer lives at the address given to you, try to find out a new address from other household members or from neighbors. Write the address in the "Comments" column, and report the changed address to your supervisor. Ask him for further instructions concerning this respondent.

When you have finished your assignment, every respondent assigned to you should be accounted for on the Control Sheet in one of the ways described in items III. A, B, C, or D.

IV. PREPARING FOR YOUR INTERVIEWS

The Manpower Survey questionnaire is the form you will use to obtain information from your respondents. You should have one questionnaire for each respondent. Arrange your survey forms in the order of respondents on your Control Sheet. Be sure you have two sharpened pencils in your portfolio.

V. BEGINNING THE INTERVIEW

A. Make certain that the person you are about to interview is the respondent assigned to you.

B. Identify yourself as an Arizona State University interviewer, and show the respondent your identification.

C. In a few words, tell the respondent about the Manpower Survey. Either in English or in your language, say something like this: Arizona State University is conducting a survey that will be useful to the people of this community. We are trying to find out about our employment conditions. You are one of a small number of people who will be contacted. We need your help. Please try to answer all the questions.

D. If the respondent can read a questionnaire, hand him a blank copy to follow while you interview him.

VI. ASKING THE QUESTIONS

A. Take each question in succession. Here are some rules:

1. Do not guess at answers without inquiring. Do not suggest answers to the respondent. Ask the question as it is written on the questionnaire. If the respondent does not understand, repeat the question, maybe styling it in your own words, either in English or your Indian language. If the respondent still cannot understand or answer the question, print the letters "NA" next to the question. Go on to the next question.

2. If the respondent hesitates to give you information, you may have to reassure him that the information will be handled confidentially. Try to explain that the information is going to be used only for purposes of planning better programs for the benefit of all members of the tribe.

3. Before leaving the respondent, review the questionnaire to make sure you have not left out anything. Then thank him for answering the questions.

4. As soon as you leave the respondent, take out your Control Sheet and make notes in the "Comments" column, on the lines for that respondent, about any problems or questions that arose during the interview. For example, if there is a question he does not understand, put down the number of the question and a note "didn't understand." If he refuses to answer any question, write down the number of the question and a note, "refused to answer." Do not wait until you return home to write down your comments. This is a very important part of your work.

Appendix III

INTERVIEWER CONTROL SHEET

Name of Interviewer ______________________________ Page______ of______ pages

Date ______________

Name and Address of Respondent	Code	Visits–Date and Time				Comments
		1	2	3	Close out	
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						